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Abortion, contraception and associated social stigma – consequences and solutions in a low-resource setting in western Kenya

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Abortion, contraception and associated social stigma – consequences and solutions in a low-resource setting in western Kenya

THESIS FOR DOCTORAL DEGREE (Ph.D.)

By

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To my husband, Gianluca, and my children, Vanessa and Giulia

ABSTRACT

Background: Complications of unsafe abortion is one of the top causes of maternal morbidity and mortality among women and adolescent girls globally. Stigmatising attitudes and behaviour seem to directly impact women's and girls' reproductive decision-making but are rarely explored. Enhanced understanding of the stigmatisation of abortion and contraceptive use is needed to reduce its impact on affected individuals and increase access to quality abortion care and contraceptive counselling and provision.

Aim: The overall aim of this doctoral thesis was to increase knowledge on the constituents and consequences of, and solutions to, social stigma surrounding abortion and contraceptive use among women seeking post-abortion care, as well as secondary school students, in Kisumu, Kenya.

Materials, Methods, and Findings: ***Study I*** was a qualitative study with individual, face-to-face interviews with nine women seeking post-abortion care. The objective was to analyse decision-making processes preceding abortion among women and adolescent girls with unwanted pregnancies. ***Method:*** Over all, 15 in-depth interviews using open-ended questions and a non-judgmental approach were conducted among women aged 19–32 years, with experienced induced abortion. All interviews were coded manually using inductive content analysis. ***Findings:*** The main findings showed poor social support and deviation from family- and gender-based norms determined abortion decision-making among women and girls. Strategic choices concerning whom to trust were made to avoid ignominy, which contributed to a culture of silence. The study found that abortion stigma hindered access to safe abortion services.

Study II was a sub-study nested in a randomised, controlled trial on women seeking post-abortion care, focusing on pregnancy intentions in order to investigate contraceptive uptake and identify factors associated with unplanned pregnancy. ***Method:*** The analysis was based on follow-ups with 807 women and adolescent girls, aged 14–45 years, seven to ten days after their post-abortion care, preceding additional follow-ups with a subset of 472 women after three months. Descriptive statistics and binary logistic regression were used for the statistical analysis. ***Findings:*** Of the respondents (N = 807), 375 (46.3%) reported unplanned pregnancy, and 432 (53.3%) reported planned pregnancy. Regardless of reported pregnancy intention, most women started to use a contraceptive method after abortion: 273 (72.8%) of the unplanned pregnancy group and 338 (78.2%) of the planned pregnancy group, respectively (p = 0.072). Independent factors associated with unplanned pregnancy were

young age (14-20 years) odds ratio (OR) 1.18; 95% confidence interval (CI), 1.05–2.82; p = 0.033; unmarried status OR 9.15; 95% CI, 5.72–14.64; $p < 0.001$; no previous children OR 1.97; 95% CI, 1.29–3.01; $p = 0.002$; hidden pregnancy OR 7.71; 95% CI, 3.30–18.01; $p <$ 0.001; and the partner absent at the clinic visit OR 3.17; 95% CI, 2.21–4.55; $p < 0.001$. At the three-month follow-up, there was no difference in contraceptive use between those groups, unplanned (161; 77.4%) versus planned (193; 73.7%), $p = 0.350$, indicating that women seeking post-abortion care may hide their pregnancy intentions.

Study III was a quasi-experimental study with pre- and post-tests, aiming to measure attitudes towards abortion and contraceptive use, and to evaluate a stigma-reduction intervention among secondary school students. ***Method:*** Two validated 5-point Likert scales were used for the data collection. The data was self-reported through classroom surveys at baseline, prior to initiation of the intervention, and at 1-month and 12-month post intervention. ***Findings***: In total, 1,207 students (618 females and 582 males) 13–21 years old were included in the analysis at baseline. Abortion was considered sinful, bringing shame to the family and community, and contraceptive use was associated with immorality and promiscuity. However, male students displayed higher stigma scores: abortion stigma (57.7%) and contraceptive use stigma (58.5%), compared to female students (49.0%, p = 0.003 and 50.6%, $p = 0.007$, respectively). At 12-month follow-up, the decrease for the abortion stigma was 26.5% among the girls, and 29.8% among the boys. The stigma score regarding contraceptive use decreased with 25.2% among the girls, and with 28.8% among the boys. Hence, the intervention was considered effective to reduce stigma associated with abortion and contraception among both girls and boys. The overall stigma scores decreased significantly between baseline and 12-month; for abortion 28.2% (2.52±0.55, 1.81±0.54; $p <$ 0.001) and for contraceptive use 27.2% (2.68±0.83, 1.95±0.70; $p < 0.001$).

Conclusions: Stigma violates women's and girls' rights to sexual and reproductive education and services. Social stigma can manifest as negative stereotypes and discrimination, and it contributes to a culture of silence around abortion and unintended pregnancy, resulting in delayed health care and missed opportunities for contraceptive counselling. Women and girls might not disclose an unplanned pregnancy to avoid coercion from health-care providers. Girls associated with abortion and contraceptive use were highly stigmatised among their peers. A stigma-reduction programme within comprehensive sexuality education could be effective. However, to sustain the positive effect among students and to create a sociocultural environment where women and girls are empowered to make reproductive decisions, innovative strategies are required, including policy and community dialogues.

LIST OF SCIENTIFIC PAPERS

1. Rehnström Loi U, Lindgren M, Faxelid E, Oguttu M, Klingberg-Allvin M. Decision-making preceding induced abortion: a qualitative study of women's experiences in Kisumu, Kenya. BMC Reprod Health. 2018;15(1):166.

2. Rehnström Loi U, Klingberg-Allvin M, Gemzell-Danielsson K, Faxelid E, Oguttu M, Makenzius M. Contraceptive uptake among post-abortion care-seeking women with unplanned or planned pregnancy in western Kenya. Sexual & Reprod HealthCare. 2020; 23.

3. Rehnström Loi U, Otieno B, Oguttu M, Gemzell-Danielsson K, Klingberg-Allvin M, Faxelid E, Makenzius M. Abortion and contraceptive use stigma: a cross-sectional study of attitudes and beliefs in secondary school students in western Kenya. Sex Reprod Health Matters. 2019;27(3).

4. Makenzius M*, Rehnström Loi U*, Otieno B, Oguttu M. A stigma-reduction intervention targeting abortion and contraceptive use stigma among adolescents in Kenya – quasi-experimental study. Sex Reprod Health Matters. Forthcoming.

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CONTENTS

LIST OF ABBREVIATIONS

ANOVA	Analysis of variance
ASABA	Adolescent Stigmatizing Attitudes, Beliefs, and Actions
CI	Confidence Interval
CSE	Comprehensive Sexuality Education
CUS	Contraceptive Use Stigma
FIAPAC	International Federation of Professional Abortion and Contraception Associates
FP2020	Family Planning 2020
HIV/AIDS	Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome
ICFP	International Conference on Family Planning
ICPD	International Conference on Population and Development
JOOTRH	Jaramogi Oginga Odinga Teaching and Referral Hospital
KMET	Kisumu Medical and Education Trust
M	Mean
NGO	Non-Governmental Organisation
OR	Odds Ratio
SABA	Stigmatizing Attitudes, Beliefs and Actions
SD	Standard Deviation
Sida	Swedish International Development Cooperation Agency
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

CONCEPTS AND DEFINITIONS

Comprehensive abortion care	abortion services at the request of the woman/girl, together with contraceptive counselling, provision and follow-up
Gender equality	equal opportunities, rights, and responsibilities of women and men / girls and boys
Gender equity	recognises that there are differences between women and men and focuses on meeting both sexes' needs, whether similar or different
Maternal death	death of woman while pregnant or within six weeks of pregnancy termination that is not related to accidental or incidental causes
Maternal mortality ratio	number of maternal deaths per 100,000 live births
Post-abortion care	treatment of incomplete abortion and complications that could be life-threatening, often after an unsafe abortion; response to women's emotional and physical health needs through counselling, contraceptive counselling to all women; and service provider and community partnerships for prevention (of unintended pregnancy and unsafe abortion)
Unsafe abortion	induced abortion by an individual lacking the required competencies or performed in an environment lacking minimal medical standards or both

PARTNERSHIP AND FUNDING

Karolinska Institutet has many years of experience collaborating with research institutions and other international organizations. For this thesis, all three studies were conducted under a collaborative arrangement between Kisumu Medical and Education Trust (KMET) in Kisumu, western Kenya, and Karolinska Institutet in Stockholm, Sweden.

KMET had the overarching administrative responsibility and provided cultural awareness to the project. They also coordinated meetings with all local authorities and guided the team through the process of an ethical approval request. Karolinska Institutet provided overarching scientific and clinical expertise, conducted training and supervision, and monitored all studies on-site.

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1 INTRODUCTION

1.1 SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

Sexual and reproductive health and rights refer to the right to make decisions about, and have control over, your body and sexuality (1, 2), as well as the right to achieve the highest possible standard of sexual and reproductive health care, free of stigma, force, discrimination and violence. Sexual and reproductive health and rights maintain that women, men and adolescents should have an enjoyable and safe sex life, as well as the freedom to choose if, when and how often to reproduce. This perspective includes the right of women, men and adolescents to be accurately informed and to have access to high quality, effective, acceptable and affordable modern contraceptive methods (1, 2).

Sexual and reproductive health and rights have a central role in all people's lives and are necessary for their general health and well-being (2). However, it was not until 1994, at the International Conference on Population and Development (ICPD) in Cairo, that reproductive health was envisioned in a new way with respect to the relationship between population, development and individual well-being. The ICPD Programme of Action provided a new dimension to population and development programming by placing gender equality, women's empowerment and reproductive health and rights at the centre (1).

After the ICPD in Cairo, the Fourth United Nations World Conference on Women was held in Beijing in 1995, where the Beijing Platform for Action was adopted by 189 countries. The Beijing Platform for Action represented a decisive moment for the global agenda for gender equality and is considered an important global policy framework for women's rights. Today, the commitments and objectives set in Beijing are still used as measurements for achieving equality between boys and girls, men and women (3).

In 2000, at the Millennium Summit in New York, the United Nations Member States adopted the Millennium Development Goals, comprised of eight development goals intended to measure progress on poverty reduction in low- and middle-income countries through 2015 (4). Goal 5 of the Millennium Development Goals was to improve maternal health. However, the Millennium Summit failed to build on the ICPD Programme of Action and Beijing Platform for Action, as they initially ignored the importance of sexual and reproductive health and rights due to fear that Member States would not adopt the goals. Consequently, donors

and governments focused their efforts on other issues (5). It was only at the World Summit in 2005 that the Member States reaffirmed the commitment to sexual and reproductive health and declared that universal access to reproductive health is fundamental to achieve the Millennium Development Goals. Consequently, in late 2007, the target related to universal access to reproductive health was added to Goal 5 to improve maternal health (5).

In 2015, the United Nations General Assembly reinforced the Millennium Development Goals with 17 new Sustainable Development Goals and 169 targets for the global focus on advancing human development by 2030 (6). The 2030 Agenda for Sustainable Development was set up by the world leaders with the aim of leaving no one behind. This time, gender equality and women's empowerment was an integral part of each goal, and sexual and reproductive health was emphasised under Goal 3 with the target of ensuring universal access to sexual and reproductive health-care information, education and services (7). Also, the development of "The Global Strategy for Women's, Children's and Adolescents' Health (2016–2030)" further enforced the importance of health goals. This strategy builds on the United Nations Secretary-General's "2010 Every Woman Every Child" movement (8).

In 2018, the "Guttmacher-Lancet Commission on Sexual and Reproductive Health and Rights" launched a report highlighting the progress made in relation to sexual and reproductive health and rights, and what still needs to be done (2). The report openly criticized the 2030 Agenda for Sustainable Development and the universal health coverage movement for their narrow interpretation of sexual and reproductive health and rights. (They only include components such as maternal and newborn health, HIV/AIDS, and contraception, while issues like abortion and social stigma are overlooked.) Over the last few decades, improvements have been seen in reproductive health, but women, men and adolescents still have insufficient access to comprehensive sexual and reproductive health information, education, and services, and their sexual and reproductive rights are overlooked and disrespected (2). A more holistic approach to sexual and reproductive health is needed to accelerate progress. Some of the neglected issues are gender-based violence, abortion, adolescent sexuality, and diversity in gender identity and sexual orientation. Also, barriers to accessing sexual and reproductive health and rights, such as national laws, policies, social norms and values, must be confronted (2).

In 2019, ICPD25 took place in Nairobi, Kenya, and the partners recommitted to the Programme of Action conceived at the ICPD in Cairo in 1994: gender equality and sexual

and reproductive health and rights for all. Once again, it was determined that sexual and reproductive health and rights are interlinked with gender equality and equity, as women are the ones to give birth and usually bear most of the responsibility to feed, care, and educate children (9). Although numerous international (legal and political) agreements about sexual and reproductive health and rights have been developed and ratified, not all Member States of the United Nations have endorsed these agreements. At the 2019 United Nations General Assembly, 19 countries, United States of America, Bahrain, Belarus, Brazil, Democratic Republic of the Congo, Egypt, Guatemala, Haiti, Hungary, Iraq, Libya, Mali, Nigeria, Poland, Russia, Saudi Arabia, Sudan, United Arab Emirates and Yemen (10), announced:

> "We do not support references to ambiguous terms and expressions, such as sexual and reproductive health and rights in United Nations documents, because they can undermine the critical role of the family and promote practices, like abortion, in circumstances that do not enjoy international consensus, and which can be misinterpreted by United Nations agencies" (10).

Since 1973, the Helms Amendment has banned the use of foreign aid from the United States for activities related to abortion. In 1984, at the International Conference on Population in Mexico City, the restrictions were further strengthened by the United States government under the Reagan Administration. Under the New Mexico City Policy (sometimes called the Global Gage Rule), non-governmental organizations that included abortion-related activities in their programme would not receive funding from the United States Agency for International Development. The Mexico City Policy has been imposed by all subsequent Republican Administrations and similarly repealed by all Democratic Administrations. Republican President Donald Trump, the current President of the United States, reinstated the Mexico City Policy in January 2017 (11).

The constant denial of women's right to independently make decisions regarding their own bodies violates or poses a threat to several human rights treaties and instruments, such as a "woman's right to equality, privacy, non-discrimination, health", and freedom from inhumane and degrading treatment, as pronounced by the United Nations (12, 13). Access to information, education, and services surrounding comprehensive sexual and reproductive health and rights are fundamental human rights, and must be prioritised to ensure women's and adolescent girls' empowerment and gender equality (2, 9, 14). All people have the right to make decisions about their bodies, free from coercion, discrimination and stigma (2).

2 BACKGROUND

2.1 MATERNAL MORBIDITY AND MORTALITY

Maternal mortality reduction remains a global development priority and was embraced in the Sustainable Development Goals agenda through 2030 under "Goal 3: Ensure healthy lives and promote well-being for all at all ages" (7). Furthermore, under Goal 3, an ambitious global target has been set up, "reducing the global maternal mortality rate to less than 70 per 100,000 births, with no country having a maternal mortality rate of more than twice the global average" (7).

Pregnancy-related complications are a leading cause of morbidity and mortality for women and adolescent girls of reproductive age in low-income countries (15). Maternal mortality refers to the death of a woman or adolescent girl while pregnant or within six weeks of pregnancy termination that is not related to accidental or incidental causes (16). According to the World Health Organization, maternal morbidity is "any health condition attributed to, and/or aggravated by, pregnancy and childbirth that has a negative impact on the woman's well-being" (17). Of all public health indicators, maternal mortality numbers show the greatest level of inequality among countries. Each year, approximately 295,000 women and adolescent girls of reproductive age die from pregnancy- or childbirth-related complications. Nearly all (94%) of these deaths happen in countries of low or lower middle income, and most could be prevented. The maternal mortality is greatest in sub-Saharan Africa and South Asia, which account for 86% (254,000) of all maternal deaths globally. About two-thirds (196,000) of all maternal deaths globally occur in sub-Saharan Africa alone (16). Among adolescent girls (15–19-year-old), pregnancy and childbirth complications are the most common cause of death globally, but low- and middle-income countries account for almost all (99%) maternal deaths of adolescent girls aged 15–19 years (18). Maternal deaths among girls younger than 15 years occur; however, the number of deaths is uncertain, as many countries are not registering them as maternal deaths (16).

Instead of the direct number of maternal deaths, maternal mortality is often estimated in the maternal mortality ratio, which is "the number of women who die during pregnancy and childbirth, per 100,000 live births" (16). The 2017 global maternal mortality estimates indicate that maternal deaths per 100,000 live birth decreased from 342 to 211 (38%) between 2000 and 2017 (16). Also, sub-regional achievements were noted: sub-Saharan Africa has

achieved a significant reduction in maternal deaths (40%) since 2000 (16). Despite these achievements, maternal mortality is disproportionally higher in low-income countries, which highlights global inequalities and inequities in health and resources. The maternal mortality ratio is significantly higher in low-income countries: 462 per 100,000 live births compared to 11 per 100,000 live births in high-income countries (16).

The risk of maternal morbidity and mortality has two components: the fertility risk—that is, the risk of getting pregnant—and the risk of developing a complication while pregnant, in labour or postpartum (19). Therefore, women in low-income countries are at higher risk of maternal mortality and morbidity as they, on average, have more pregnancies during their life course compared with women in high-income countries. The lifetime risk of maternal mortality is the likelihood that a 15-year-old adolescent girl will die from a pregnancy-related complication. In low-income countries, the probability is 1 in 45, whereas in high-income countries, the probability is 1 in 5,400 (16). Also, adolescent girls aged 10–19 years have an increased risk of negative pregnancy outcomes compared to women in their early twenties (20–24 years), and the risk of maternal death is highest among adolescent girls under 15 years old (20, 21).

The causes of maternal morbidity and mortality are well documented and comprise severe bleeding, infection, complications of unsafe abortion, high blood pressure (preeclampsia and eclampsia), and obstructed labour. Global estimates indicate that about 4.7%–13.2% of all maternal deaths are due to complications of unsafe abortions, as compared to severe bleeding (27.1%), infection (10.7%) and hypertensive disorders (14%). In the last two decades, maternal deaths caused by severe bleeding, infection, high blood pressure and prolonged labour have reduced significantly; however, the proportion of deaths due to unsafe abortion remains high (22).

2.2 UNMET NEED FOR CONTRACEPTION

Unmet need for contraception represents the gap between sexually active women's and adolescent girls' wish to avoid future pregnancy and the use of modern (effective and accepted) contraceptives (23). Unmet need for contraception is a theoretical concept for estimating the possible demand for contraception. International organizations and family planning programmes have used the concept mainly for advocacy purposes (25).

Recent estimates indicate that 218 million women and adolescent girls in low- and middle-income countries have an unmet need for modern contraception. These women and adolescent girls desire to postpone pregnancy or have finalised childbearing; however, they are not using a modern contraceptive method (24).

The use of modern contraceptives in low-income countries is hampered by poor access to high-quality sexual and reproductive health services and fragile government programmes (26). Access to health care has been widely analysed, and Orbit et al. provide a framework for access to health care in low-income countries, which includes "Five Dimensions of Access to Health Care Services": (a) availability, (b) accessibility, (c) affordability, (d) adequacy and (e) acceptability (27). This explanation is unfortunately overgeneralised with respect to contraception. In the last decade, researchers have shown that the issue of unmet need for contraception is a more complex situation (28). A systematic review of the literature about positive and negative factors influencing contraceptive use among women and adolescent girls in sub-Saharan Africa between 2005 and 2015 indicated that underlying barriers to contraceptive use include: anxiety about side effects, male partners' disapproval, and social norms and cultural values related to women's and adolescent girls' fecundity. Education, employment, and communication with male partners were found to be positive factors for women's and adolescent girls' contraceptive use. In other words, low modern contraceptive use in sub-Saharan Africa is due to societal, cultural and personal barriers, where societal barriers include poor access to health services, cultural barriers refer to norms regarding female sexuality, and personal barriers are a more complex pattern of negative perceptions and misinformation (28).

2.3 UNINTENDED PREGNANCY

The unintended pregnancy rate is a standard indicator for measuring women's and adolescent girls' control over their reproductive lives. This metric was introduced in the 1940s and is still used broadly in sexual and reproductive health research, policy, and programme planning (29, 30). Unintended pregnancy is traditionally defined as pregnancies that are either unplanned, mistimed or unwanted. Conversely, pregnancies that occurred as planned, later in life than the woman wanted, or for women who are indifferent about the pregnancy are all considered intended (29). Globally, the prevalence of unintended pregnancy is highest in low-income countries, particularly in sub-Saharan Africa. However, a recent study suggests that the global unintended pregnancy rate has declined between 1990−1994 and 2015–2019, from 79 unintended pregnancies per 1,000 women to 64 unintended pregnancies per 1,000

women, but the proportion of unintended pregnancies with abortion as the outcome has increased (30). The same study suggests that globally about 121 million unintended pregnancies occur annually among women and adolescent girls (15–49 years). Unfortunately, the authors have not segregated unintended pregnancy by age (30). However, a study from 2016 suggests that about 10 million unintended pregnancies occur each year among adolescent girls (15–19 years) in low-income countries (31), but it is difficult to compare these estimates with the recent 2020 study as they used different models.

Unintended pregnancy has been classified as an extensive public health problem (32) and is also recognized as a cause and consequence of socioeconomic inequality (33). Lack of awareness of contraceptive methods, contraceptive failure, improper and inconsistent condom use, and modest knowledge of emergency contraception are believed to be key reasons for the high prevalence of unintended pregnancy (34, 35). Consequently, public health programmes have concentrated on increasing awareness of and access to contraceptive services as a method to reduce unintended pregnancy. These efforts are needed, of course, but will not include the larger sociocultural context in which reproductive decision-making occurs (36).

Unintended pregnancy is a subjective indicator and may not truthfully or fully capture women's and adolescent girls' feelings regarding the pregnancy at the time of conception. Since 1940, people's perceptions of sexuality and fertility have changed, and political, economic and cultural changes have taken place (29, 37). The concept of unintended and intended pregnancy behaviour is limited, particularly among low-income populations that do not necessarily classify their pregnancy in this binary way (36).

2.4 UNSAFE ABORTION

In 1967, the World Health Assembly recognized abortion as a serious public health problem (38). However, it was not until 1987 that the Safe Motherhood Initiative introduced the concept of "unsafe abortion," with the objective of emphasising the public health issue rather than the legal aspects of abortion. Moreover, it was only in 1989, when the World Health Organization published the first abortion-related maternal death estimates, that the magnitude of this public health concern was really understood (39). The World Health Organization defines unsafe abortion as a procedure of terminating an unwanted pregnancy by individuals missing the required competencies or in a setting not in compliance with minimal medical standards—or both. Furthermore, the World Health Organization suggests specifying:

> "The persons, skills and medical standards considered safe in the provision of abortion are different for medical and surgical abortion and also depend on the duration of the pregnancy. What is considered 'safe' should be interpreted in line with current World Health Organization technical and policy guidance" (40).

The latest global estimates suggest that about 73.3 million induced (safe and unsafe) abortions occurred globally every year between 2015 and 2019 (30). Estimates from 2010 to 2014 suggest that about 45% of all abortions were unsafe and nearly all took place in a low-income country (41). In East Africa alone, about 2.7 million abortions occur annually, and most of these abortions are conducted in an unsafe way (42). It is estimated that globally about 5.6 million abortions occur annually among adolescent girls (15–19 years), and out of these, 3.9 million are unsafe (31). Approximately 7 million women and adolescent girls are admitted to hospitals every year in low-resource settings due to complications of unsafe abortions (43). Unsafe abortion is one of the top five causes of maternal death, although it is completely preventable (22).

The determinants for unsafe abortion are many, but examples include the national laws and policies on abortion, the socioeconomic and political conditions, the need for confidentiality, availability of safe abortion services, perceived higher cost of safe providers, lack of knowledge about safe abortion procedures and services, and stigma surrounding abortion (44, 45). In high-resource settings, almost all abortions are safe, but this is not the case in low-resource settings. For instance, in Africa it is estimated that only one in four abortions are safe (41). Since the 1990s, maternal deaths caused by unsafe abortion have steadily increased in sub-Saharan Africa (46), and it is estimated that about 30% of all maternal deaths in this region are due to complications from unsafe abortion (43). Adolescent girls in low-resource settings, and predominantly those living in rural areas, are more likely to have an unsafe abortion, compared to women in high-income countries, indicating enormous health inequities and inequalities. Although unsafe abortion is known to be a serious public health concern, the nature of the problem has left it out of the global strategies to combat maternal mortality (47). Moral and religious arguments hamper political commitment and legal reforms that are needed to increase access to high-quality abortion care. Therefore, unsafe abortion is still one of the most neglected sexual and reproductive health concerns globally (47).

Despite legal restrictions, women and adolescent girls undergo abortion. These legal restrictions and societal stigma may drive the procedure underground, where it becomes unsafe and harmful to women's and adolescent girls' health, lives, families, and communities. Unsafe abortion is mainly a problem in countries where abortion is criminalized by law or where, although legally permitted, safe abortion is not available or accessible. In these often low-resource settings, women and adolescent girls undergo unsafe abortions by self-inducing or attaining unsafe abortions from traditional healers or paramedical workers (48). Furthermore, when legal access to abortion is restricted and health-care resources are scarce, women and adolescent girls tend to present at later gestations with incomplete abortion or complications caused by unsafe abortion, and incompetent health-care providers use outdated post-abortion care methods—all contributing to increased risk for maternal death (49).

2.5 INTERVENTIONS TO DECREASE UNSAFE-ABORTION-RELATED MORBIDITY AND MORTALITY

"The Committee on the Elimination of Discrimination Against Women" clearly states that restrictive abortion laws and lack of access to reproductive education and modern contraceptive methods are linked with high prevalence of maternal deaths related to unsafe abortion (12). Prevention of unsafe abortion includes: (a) prevention of unintended pregnancy and induced abortion through access to rights-based contraceptive counselling and services, (b) assurance of safe and legal abortion, (c) provision of high-quality post-abortion care to prevent complications of unsafe abortion, and (d) prevention of repeated abortion through post-abortion contraceptive counselling and services (50).

2.5.1 Access to rights-based contraceptive counselling and services

Sustainable Development Goal 3.7 ("universal access to sexual and reproductive health-care services") recognizes access to contraception as a human right (7). Women and adolescent girls with unmet need for contraceptives may choose not to use contraception for various reasons, including low decision-making power, laws and policies preventing unmarried women from accessing contraceptives, misconceptions, side effects, stigma, and poor geographical and/or financial access (51, 52). Adolescent girls in low-income countries, and more so unmarried adolescent girls, face multiple barriers in accessing contraceptives and in using them correctly and consistently (52). Supporting women and adolescent girls in accessing contraceptives and fulfilling their pregnancy preferences is a high priority by development partners. In 2012, at the London Summit of Family Planning, a global

partnership called FP2020 was launched with the objective of increasing new users of modern contraceptives by 120 million in the most underprivileged countries by 2020 (53).

In 2017, FP2020 partnered with representatives from non-governmental organizations (NGOs), donors and the United Nations to develop strategies for improving contraceptive counselling and rights-based service provision. One high-level recommendation is that governments should commit to protect, respect and fulfil the human right to freely decide when to have children and to respect the choices the individuals make. Another recommendation is that countries should implement a "Client-Centred Approach to Care" in order to empower individuals to achieve their reproductive goals. Box 1 outlines the FP2020 definition of "Client-Centred Approach to Care" (54).

This approach is in line with the theoretical framework developed three decades ago by Bruce J. on the quality of family planning services, which is focused on (a) high-quality two-way information provision, (b) contraceptive technology safety, (c) choice of contraceptive method, (d) interpersonal relations, (e) follow-up care, and (f) integration with other sexual and reproductive health services (55). Also, in 2006, the World Health Organization published a guide for providers, policymakers and health managers with a systematic method to operationalize interventions to improve quality of care (56). A year later, in 2007, the World Health Organization published the first edition of the Global Handbook, entitled "Family Planning: A global handbook for providers." The handbook is written in plain English as a quick reference for health-care providers working in low-income countries. The third edition of this handbook was published in 2018 and includes a section on quality of care that stresses the importance of interpersonal relations, respectful counselling, dignity, privacy and confidentiality (57).

Box 1: FP2020 Client-Centred Approach to Care

1. Clients are treated with dignity and respect; privacy, confidentiality, and consent are ensured.
2. Clients are asked about their reproductive aims, family situation, previous contraceptive use and chosen method(s); information is offered regarding various contraceptive methods that could fit the clients' needs.
3. Contraceptive options are discussed, including possible side effects and their management. Clients select their ideal method, or no method, after being well-informed.
4. Users receive follow-up and, if they desire, are provided a method switch.
5. Communities are encouraged to demand high-quality information, contraceptives, services, and care.

Source: FP2020; "Call to action: Strategies for Enhancing Quality of Care in the Context of Rights-based Family Planning" (54)

2.5.2 Legal abortion

Prior to the nineteenth century, abortion was not forbidden by law, but by the end of the nineteenth century abortion was legally restricted in almost every country. Powerful European countries, such as France, Great Britain, Italy, Portugal and Spain, forced their own abortion laws on their colonies (58). The reasons for introducing legal restrictions on abortion services were mainly threefold. First, women were dying due to unsafe abortion, and the laws were set up to protect women. Second, abortion was seen as a sin, and the laws were intended to restrict and penalise women. Finally, the laws were intended to protect the foetal life (58).

Abortion is one of the few health interventions that are regulated by law. National abortion laws still regulate women's fertility and permit, forbid or restrict abortion services. However, in most high-income countries, the liberalization of abortion laws occurred between 1950 and 1985 due to safety and human rights issues (59). Evidence showed that restricting or criminalizing abortion could not reduce abortion rates; however, it affected the safety of abortion provision (50). The success of liberalization efforts largely depends on the political situation and commitment of advocacy groups in the country. The most liberal abortion law permits a woman and an adolescent girl abortion upon her request. The United Nations has identified seven different grounds on which abortion is permitted: (a) to protect the woman's life, (b) to preserve health, (c) to preserve mental health, (d) in case of rape or incest, (e) for foetal defects, (f) for socioeconomic reasons and (g) on request (60).

In 1995, the Beijing Platform of Action announced the importance of removing legal barriers to abortion in order to save women's lives, promote their health and empower women to make decisions about their reproductive health (41). However, in 2018, only 32% of all countries in the world allowed or permitted abortion at the woman's request with no need for justification. Most countries (82%) permitted abortion to save the woman's life, but only about half of the countries (46%) allowed or permitted abortion when the pregnancy resulted from rape. In general, abortion laws and policies are significantly more restrictive in low-income countries (61). Abortion laws are restrictive in most countries in Africa. In only five African countries (Angola, Cabo Verde, São Tomé and Príncipe, South Africa, and Tunisia), abortion is legal on request of the woman, with a gestational limit of 12 weeks in all countries, except for Angola, where the gestational limit is 10 weeks (62).

In countries with restricted access to abortion, individuals with unintended pregnancies still seek abortion and consequently face legal and physical risks. Restrictive abortion laws do not lower the abortion rates—rather the opposite. A recent study found that the abortion rate for

countries with restricted abortion laws was 36 (80% UI 32–42) per 1,000 women aged between 15 and 49 years, compared to 26 (80% UI 24–30) per 1,000 women aged between 15 and 49 years for countries with broad legal access to abortion, excluding India and China (30).

Although abortion is legal on various grounds in sub-Saharan Africa, safe abortion is rarely available, accessible and affordable for women and adolescent girls. Health-care providers, including nurses and midwives, persist in declaring abortion illegal, rather than recognizing that women and adolescent girls have a legal right to abortion under certain circumstances. Consequently, lawyers, policymakers and health-care professionals ignore these women's and adolescent girls' right to safe abortion services (63).

2.5.3 Access to quality comprehensive abortion care

Comprehensive abortion care refers to safe abortion and post-abortion care, including contraceptive counselling and services (64).

2.5.3.1 Safe abortion care

The safe abortion guidance by the World Health Organization suggests that safe abortion services are possible at a primary care level and by midlevel health-care providers using simple technologies, such as medical abortion ("combination of mifepristone and misoprostol, or misoprostol alone where mifepristone is not available") or manual vacuum aspiration (56, 57). Furthermore, the World Health Organization classifies abortion safety into three levels: safe, less safe and least safe (41, 58). Abortions performed with a medical procedure recommended by the World Health Organization, appropriate for gestational age and by a skilled health-care provider are defined as safe. Less safe are abortions that meet one of two criteria—provider or medical procedure—but not both. Similarly, abortions performed with outdated methods, even if the provider has the competencies, are considered less safe. The least safe are abortions that meet neither provider nor medical procedure criteria. This could be when an untrained individual uses dangerous procedures or when using traditional mixtures or herbs (59).

The World Health Organization estimates that about 55% of all abortions globally are considered safe, while 31% are less safe, and 14% are least safe. Countries with restrictive abortion laws have higher proportions of least-safe abortions (41). Nevertheless, estimating abortion safety is complex. Medical abortion and telemedicine services are more common

and reach a larger number of women and adolescent girls; therefore, the challenges in estimating abortion safety can be more complicated than what recent studies present. Also, data on abortion outcomes, abortion stigma and health-care providers' competencies should also be considered when estimating abortion safety (60).

2.5.3.2 Post-abortion care

Post-abortion care is an important part of comprehensive abortion care for the treatment of complications from both spontaneous and induced abortion. By treating complications related to unsafe abortion or incomplete abortion, post-abortion care can be lifesaving (65).

In 1991, Ipas, an international, nongovernmental organization based in the United States, used the term "post-abortion care" for the first time in their strategic planning document, with the objective of breaking the cycle of repeated unintended pregnancies and improving women's health. A few years later (1993), Ipas, the International Planned Parenthood Federation (IPPF), AVSC International (now EngenderHealth), the JHPIEGO ("International non-profit health organisation affiliated with Johns Hopkins University"), and Pathfinder International established the Post Abortion Care Consortium with the aim of promoting post-abortion care as a strategy to improve public health (66). As of today, the post-abortion care model consists of five aspects: (a) prevention through community and health-care provider partnerships, (b) counselling, (c) treatment, (d) contraceptive services, and (e) referral system to other more comprehensive health-care services (64). To prevent future unintended pregnancies and repeated abortions, contraceptive counselling and the provision of contraceptive methods are essential elements in post-abortion care. Post-abortion contraceptive counselling and provision should be offered to all women and adolescent girls, along with adequate information about various contraceptive methods for immediate provision (50, 67), as ovulation can occur as early as one week after a safe abortion (medical or surgical) (67). Furthermore, the motivation to start an effective contraceptive method is highest just after the abortion, and most modern methods can be provided immediately. Improved post-abortion services, such as enhanced contraceptive counselling, would be essential developments for the concerned women and their families (68).

2.5.3.3 Quality abortion and post-abortion care

For many years, abortion care has been focused on safety, and only recently has the discussion on quality abortion and post-abortion care been initiated. Quality abortion care includes safety but is not the only element. Consequently, what constitutes quality abortion

care is not well defined. Standard or agreed-upon indicators for measuring quality abortion care are also absent (69). However, there is a growing awareness of the importance of quality abortion and post-abortion care, as opposed to merely safe abortion care (70).

2.6 ADOLESCENTS' SEXUAL AND REPRODUCTIVE HEALTH

Estimations suggest that about 1.2 billion (16%) of the global population consists of adolescents aged 10–19 years. Sub-Saharan Africa is the area with the highest proportion of adolescents aged 10–19 years, with 23% of the region's population belonging to this age group (71). Adolescents (age group of 10–19 years) undergo several physical, emotional and social changes. This is also the period when many people will start exploring their sexuality and developing intimate relationships. In many low-income countries, cultural taboos and stigmatising attitudes towards girls' puberty and sexuality are common. Adolescent girls are often poorly prepared for puberty, and the most common sources of information are mothers and other female relatives who are not necessarily ready to respond to the needs of the girls. Researchers have found that in some low-income countries, two out of three adolescent girls were not aware of puberty and did not understand menstruation (72).

Adolescent girls represent an uneven portion of morbidity and mortality from unsafe abortion compared to women older than 20 years (73). Typically, adolescent girls understand they are pregnant much later than women older than 20 years. Therefore, adolescent girls with unwanted pregnancies will have abortions later in the pregnancy period. Also, they tend to self-manage an abortion or search for help from unskilled providers due to stigma and discrimination. Commonly, adolescent girls and young women are less informed about their sexual and reproductive rights, particularly those related to abortion and post-abortion care (74).

2.6.1 High-quality comprehensive sexuality education

Comprehensive sexuality education (CSE) is an age-appropriate, school-based programme for learning about the emotional, physical and social aspects of sexuality and reproduction. The objective of CSE is to empower adolescents and youth to better understand their sexuality, to increase sexual and reproductive health and rights knowledge and skills, to explore their values, attitudes and beliefs, and to equip them to be prepared to make healthy decisions regarding their sexual and reproductive well-being (75).

In 1994, the ICPD Programme of Action emphasised the importance of sexuality education for adolescents and young people (1). Consequently, access to CSE is protected today by international human rights treaties and recognized by several international bodies, such as the United Nations Population Fund (UNFPA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Joint United Nations Programme on HIV and AIDS (UNAIDS), and the World Health Organization (75).

In 2009, UNESCO published the International Technical Guidance on Sexuality Education, which provided international standards for CSE programmes and included attention to human rights and gender issues (76). Consequently, other CSE tools were developed by UNESCO and UNFPA to support the development, scale-up or review of CSE programmes. In early 2018, UNESCO, together with UNAIDS, UNFPA, United Nations Children's Fund (UNICEF), United Nations Women, and World Health Organization, published the revised "International Technical Guidance on Sexuality Education" (75,77). With this guidance document, the six United Nations agencies provided a commonly agreed upon definition of CSE, along with evidence, rationale and directions on CSE programmes. The 2018 revised document has improved some key concepts, topics and learning objectives. It also provides a strong focus on gender inequalities, gender norms, and human rights. In addition, a strong focus on pregnancy and pregnancy prevention, unsafe abortion, and gender-based violence was included to respond to current needs (75,77). Regarding discrimination and stigmatising attitudes, the revised "International Technical Guidance on Sexuality Education" includes one chapter on HIV/AIDS stigma, and the document also raises the issue of stigmatisation due to grounds of sexual orientation and gender identity (75). However, stigma associated with abortion and contraception is completely excluded and not discussed.

High-quality CSE with a focus on empowerment, gender equality and human rights has been shown to improve sexual behaviour, health, knowledge and attitudes. CSE has gained widespread acceptance, and several countries worldwide have implemented sexuality education policies with the aim of preventing unintended pregnancies, unsafe abortions and HIV transmission. However, there is still discomfort and reluctancy about adolescent sexuality in many communities. Sexuality education remains controversial, mostly due to the fear that informing adolescents about sex and demonstrating condom use will increase sexual activity (75, 78).

A reason for poor implementation of the CSE programme could be that teachers are not equipped to enable adolescents to personalise what they have learnt at school and apply it in their lives. Many teachers in low-income countries are not trained in delivering CSE and might have negative and stigmatising attitudes, as well as poor knowledge and skills in delivering CSE effectively (79). Teachers' competencies in providing CSE to adolescents and young people are fundamental for high-quality CSE programmes (80). In settings where gender inequalities exist and sexual and reproductive health topics are sensitive and formed by social and cultural norms, CSE can have a transformative role. CSE can challenge negative sexual and reproductive attitudes and contribute to a united society (77).

2.7 STIGMA ASSOCIATED WITH ABORTION AND CONTRACEPTIVE USE

The term stigma (plural stigmata) was used by the Greeks to express physical signs placed on the body like a tattoo to indicate something unusual or negative about the moral status of a person. The physical signs were burnt or cut into the skin and left prominent eschars to visually mark that the individual was a traitor, slave or criminal. In other words, the person was supposed to be avoided or shunned because he or she was morally polluted. The explanation for using stigmata was the concept of group survival. Individuals who were perceived as threats or as incapable of contributing to the group's survival were stigmatised (81).

In 1963, stigma was defined by Goffman as follows:

> "An illuminating excursion into the situation of persons who are unable to conform to standards that society calls normal. Disqualified from full social acceptance, they are stigmatised individuals" (81 p158).

The definition of stigma by Goffman emphasises shame and humiliation, rather than physical evidence, like the bodily eschar of stigma used by the Greeks. Furthermore, Goffman emphasises the contagiousness of stigma: stigma as individual stereotyped attitudes and beliefs that originate from the stigmatiser and are directed towards the stigmatised people that belong to a less powerful group within the society (81).

The first definition of abortion stigma was formulated in 2009 by Kumar, Hessini and Mitchell as "a negative attribute ascribed to women who seek to terminate a pregnancy that marks them, internally or externally, as inferior to ideals of womanhood" (44). Kumar, Hessini and Mitchell build on Goffman's stigma framework and on other social science researchers' (Link and Phelan) concept of stigma by linking labelling, discrimination and

stereotyping (82). Additionally, they were influenced by Heijnders and Van Der Meij in amplifying how abortion stigma operates at four levels: (a) cultural, (b) organisational, (c) community and (d) individual (83). Kumar, Hessini and Mitchell indicate three femininity ideologies that adolescent girls and women who obtained abortions are frequently considered to have violated: "female sexuality solely for procreation, the inevitability of motherhood and instinctual nurturance of the vulnerable" (44 p625-639). According to this concept, women who have obtained abortions or used contraceptives challenge social norms related to maternity and female sexuality, and therefore provoke stigmatising attitudes and behaviour from society (44).

Abortion stigma researchers have developed a three-domain framework to describe how women encounter abortion stigma. First, *perceived stigma* describes a woman's consciousness of others' attitudes and values towards abortion and her anticipation that the society will discriminate against her fertility regulation behaviour. Second, *internalized stigma* results when a woman incorporates adverse attitudes associated with abortion, like shame and guilt, into her identity. Finally, *enacted stigma* describes direct discrimination or negative behaviour by the society due to a women's abortion experience. Women who have obtained abortions are probably affected the most by abortion stigma, but discrimination and negative attitudes can also spread to groups such as abortion providers, partners and families of women who have had abortions (84, 85).

There is evidence suggesting that a large proportion of women who have had an abortion experience internalized abortion stigma in the form of guilt, shame, negative feelings or self-blame (85). Previous research also indicates that women who have terminated an unwanted pregnancy fear possible social reactions and judgement. In many countries, women feel uncertainty about the legality, ethics and morality of abortions. Consequently, women tend to undergo abortion in secret, which leads to increased social isolation and psychological distress (85). Similarly, previous studies have shown that religion is a significant determinant of abortion attitudes. For example, when premarital sex is considered a sin, adolescent girls associated with contraceptive use are often stigmatised (52, 86). Women's and adolescent girls' fear of stigma and discrimination associated with abortion and contraceptive use is a major barrier for them to access safe and effective sexual and reproductive health services (52, 87, 88). "Stigma works at all levels in society, not least in school environments" (89) and among abortion providers (90). Research suggests that post-abortion care providers also have stigmatising attitudes towards women in need of abortion and contraceptive services.

Abortion stigma has commonly been defined as individual-level attributes, beliefs and behaviours. However, in recent years, there has been a shift within scholarly literature from defining abortion stigma as an individual phenomenon to a sociocultural process including power relations (84, 91). Millar (2020) has suggested a broader definition for abortion stigma to allow for cultural differences and several objectives:

> "Abortion stigma is a sociocultural process tied to the categories of difference upon which power relations are produced and legitimated. Stigma is one of many processes through which abortion is made intelligible and is contingent and contested" (91).

Stigma associated with abortion and contraception, including impressions of coercion, are essential factors to consider when aiming for decreased unintended pregnancy rates and improved public health. Stigmatising attitudes and beliefs among health-care providers, parents and adolescents are barriers to safe abortion and effective modern contraceptive methods (52, 92).

The research field surrounding stigma associated with abortion and contraception is growing. However, most studies focus on women, those whom abortion stigma affects, (84) or health-care providers' attitudes towards abortion (90). A systematic literature review on abortion stigma confirms this, as it found only 14 articles that addressed abortion stigma. Seven articles addressed women's experience of abortion stigma; five articles provided knowledge on stigmatising attitudes among the public towards women who opt for an abortion; and three articles provided information on providers' experience of abortion stigma (85). Furthermore, the studies included in the systematic literature review were predominantly from one single high-income country; 11 out of 14 studies were conducted in the United States (85). Improving the understanding of how stigma operates within and between social groups and the social production and function of stigma associated with abortion and contraception will benefit not only the women and adolescent girls in need but also society in general, as it can inform strategies to reduce such stigma. Reduced stigmatising attitudes in society in general may eliminate barriers and improve access to abortion information, education and services of high quality.

2.8 THE KENYAN CONTEXT

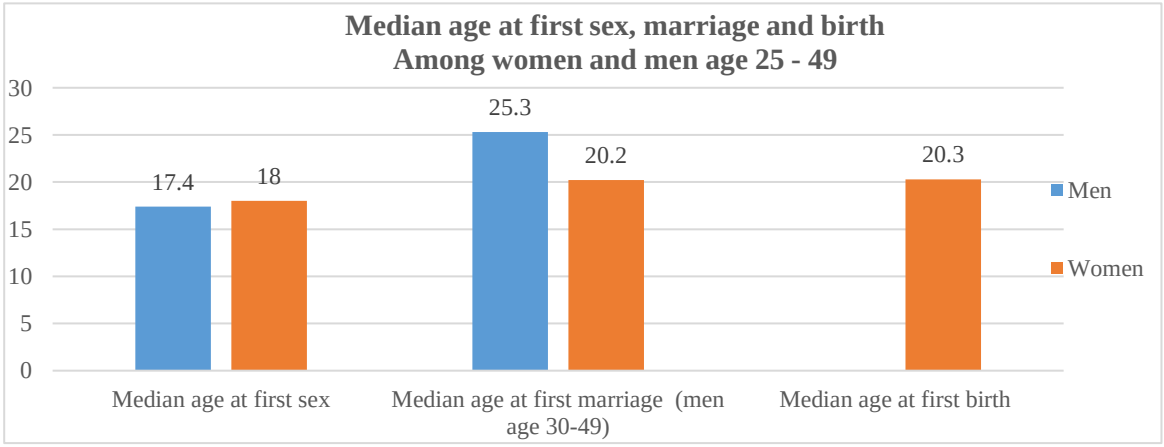
2.8.1 Demographics

Kenya is a country with a multifaceted history that attained its independence from Britain in 1963 and was declared a republic one year later. Kenya has faced times of tribal pressures,

and it is only in the last ten years that the country has seen some stability and developmental progress (93). Consequently, in 2014, Kenya was categorised as a low-middle-income country (94).

Despite progress in reducing poverty, current poverty rates are still high compared with other low-middle-income countries. An annual poverty reduction rate of 6.1% would be required for Kenya to eliminate extreme poverty by 2030. However, in the last decade Kenya has only reached a 1.6% annual poverty reduction (94). Furthermore, the Kenyan population is rapidly growing, with an annual growth of about 2.3%. In 2019, the population reached 47.5 million (95). Kenya has a young population, with 43% of the population under age 15 (96). Most Kenyans practice Christianity (86%) and have a strong community-oriented culture (97). The total fertility rate in Kenya is 3.9; however, fertility varies dramatically with level of education. Women with no education have an average of 6.5 children, compared to women with higher education, who have an average of 3.0 children. A similar trend is seen among women from the poorest households (total fertility rate 6.4) compared to women from the wealthiest households (total fertility rate 2.3) (98). The contraceptive prevalence rate is estimated to be 43% among all women of reproductive age (15–49 years) and 58% among married women only. Figure 1 illustrates that women marry earlier than men. Average age at marriage among Kenyan women increases with education. On average, both women and men have their first intercourse before marriage, and 15% of women and 21% of men had their first intercourse at age 15 (98).

Figure 1: Median age at first sex, marriage and birth



Source: 2014 Kenya Demographic and Health Survey (98)

Unmet need for contraceptives is high among adolescents aged 15–19 in Kenya. In 2018, it was estimated that, among the 2.8 million women aged 15–19, 665,000 (24%) had a need for a contraceptive method. In other words, they are sexually active and do not want a child for at least two years but do not use a modern contraceptive method. This age group accounts for 86% of all unintended pregnancies in the country (99).

Polygynous union is common in Kenya. Among women aged 15–49, 11% reported that they have at least one co-wife. This is most common among women with no education (98). Although Kenya ranks 109 out of the 153 countries in the "Global Gender Gap Report 2020", significant gender inequalities remain (100). Kenyan society is highly patriarchal, particularly in rural areas. This originates from the traditional African lifestyle, where women have a low status and are supposed to take care of the children and household duties (101). Women are disproportionately poorer than men and often unaware of their rights. Today Kenyan women are still economically dependent on men, and women's empowerment is challenged by lack of education, early or child marriage, gender-based violence, sexual violence, harassment and rape, and female genital cutting (94, 98).

2.8.2 The health policy and health service delivery

The overarching legal framework for health care delivery in Kenya is the 2010 Constitution of Kenya. The Constitution emphasises a rights-based approach to health where all Kenyans have "a right to the highest attainable standard of health, which includes reproductive health rights" and where no one shall be denied emergency medical care" (102 p1).

Also, the Government of Kenya has committed to Universal Health Coverage for essential services, including maternal, neonatal and child health, by 2022. Universal Health Coverage is one of the four big initiatives under Kenya Vision 2030, Kenya's long-term development blueprint (103). The concept of Universal Health Coverage was already adopted in 2005 with the "Kenya Essential Package for Health" and an action-focused strategy for Primary Health Care. The Kenyan health-care system is structured around Primary Health Care and divided into six hierarchical levels: "(a) community services, (b) dispensaries and clinics, (c) health centres and maternity and nursing homes, (d) sub-county hospitals and medium-sized private hospitals, (e) county referral hospitals and large private hospitals, and (f) national referral hospitals and large private teaching hospitals" (104). The "Kenya Essential Package for

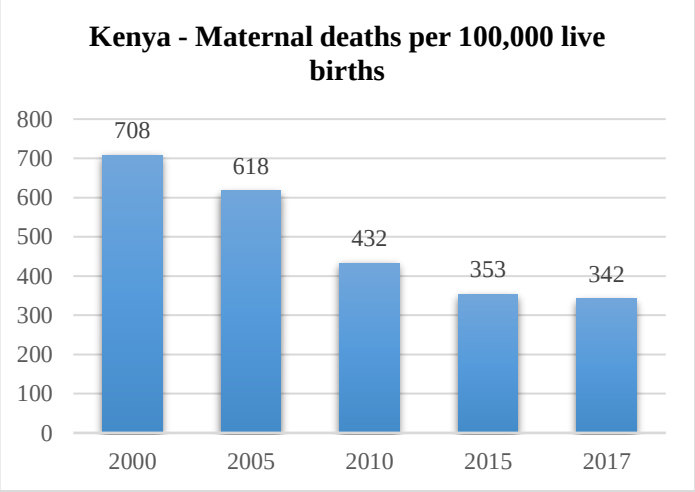
Health" has contributed to increased access to health-care services in Kenya from 41% in 2013 to 55% in 2016 (104).

Abortion services are rarely provided in the public health sector in Kenya. Similarly, provision of post-abortion care in public facilities in Kenya remains low, hindered by restrictions on abortion, intermittent service interruptions, poor availability of services, inequitable access to post-abortion care, and lack of capacity at primary health-care facilities to manage complications, leading to further complications (105).

2.8.3 Maternal mortality

Kenya has had a gradual decrease in the maternal mortality ratio from 2000 to 2017 (see Figure 2). In 2017, the maternal mortality ratio in Kenya was estimated to be 342 maternal deaths per 100,000 live births (16).

Figure 2: Maternal deaths per 100,000 live births in Kenya 2000 to 2017



Source: "Trends in maternal mortality 2000 to 2017: estimates by World Health Organization, UNICEF, UNFPA, World Bank Group and the United Nations Population Division" (16)

Despite these impressive national achievements in maternal mortality, regional differences within Kenya demonstrate vast inequalities. National data indicates that 98.7% of the total maternal mortality in Kenya is found in 15 out of 47 counties (106). According to the 2014 Kenya Demographic Health Survey, unsafe abortion is the foremost contributor to the high maternal mortality ratio in Kenya (101).

2.8.4 History and legal regulation of abortion in Kenya

Kenya has an abortion law dating from the colonial time of British rule. Under the 1970 Penal Code, abortion in Kenya is criminalized, and abortion is legal only when a pregnant woman's life is in danger. The Penal Code imposes penalties of up to fourteen years' imprisonment for the abortion provider and seven years' imprisonment for women or girls who have abortions in any other circumstances (107). "The African Charter on Human and Peoples' Rights on the Rights of Women in Africa (the Maputo Protocol)" (108) from 2003 is the main legal document regarding the rights of women and girls in Africa. The Maputo Protocol includes sexual and reproductive health and rights and is strong in its statement regarding fertility regulation and access to safe, legal abortion as a human right for women. Kenya ratified the Maputo Protocol in 2010, but placed reservations on Article 14(2C) within the Protocol that calls on states to:

> "take all appropriate measures to protect the reproductive rights of women by authorising medical abortion in cases of sexual assault, rape, incest, and where the continued pregnancy endangers the mental and physical health of the mother or life of the mother or the foetus" (108).

However, the "National Guidelines on Management of Sexual Violence in Kenya" allow abortion in cases of rape or violation (109).

Abortion in Kenya was only legally allowed to save the life of a woman until 2010, when the revised constitution was adopted. The new constitution permits abortion when "in the opinion of a trained health professional, there is need for emergency treatment, or the life or health of the mother is in danger, or if permitted by any other written law" (110). However, as of today, the Kenyan Penal Code criminalizes abortion, while the constitution from 2010 theoretically allows abortion. This conflict creates an ambiguous legal environment (111). As the abortion law in Kenya is not harmonized, this creates confusion among health-care providers, and ultimately women and girls are affected by poor access to safe abortion (112). The contradiction could be one of the reasons for the slow implementation of the new constitution and could affect health-care providers' attitudes and perceptions of abortion.

2.8.5 Abortion and contraception

Unsafe abortion is a huge public health issue in Kenya, with 464,000 abortions induced annually and a national abortion rate of 48 abortions per 1,000 women of reproductive age (15–49) (113). This figure is the highest among all sub-Saharan African countries; the regional abortion rate is 31 abortions per 1,000 women of reproductive age (42). The induced

abortion rate in Kenya is estimated to be the highest in the Rift Valley region and the combined Nyanza and Western region, including Kisumu County (113).

To support the implementation of the 2010 constitution, the "Republic of Kenya Ministry of Medical Services" published the "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya" in September 2012. Several stakeholders supported the ministry in its development. However, one year later, in December 2013, the "Director of Medical Services" withdrew the document without providing a justification. Furthermore, all in-service training of health-care providers on safe abortion care was suspended. In 2018, the civil society activists filed a petition against the withdrawal of the standard and guidelines. The High Court ruled in 2019 that withdrawing "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya" had violated the rights to high-standard health care, and the Standard and Guidelines document from 2012 was restored in 2019 (114). The aim of the "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya" is to provide support for evidence-based decision-making by reproductive health-care providers. The document has a strong emphasis on sexual and reproductive health services, information, and education for adolescents and youth (115).

According to the "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya," doctors, nurses, midwives and clinical officers with appropriate training can provide first-trimester abortion and post-abortion care (from gestation up to 12 weeks) by vacuum aspiration, with misoprostol alone, or with misoprostol in combination with mifepristone. Second-trimester abortion and post-abortion care (from 13 to 27 weeks) can be provided only by skilled medical officers in consultation with a gynaecologist by dilatation and evacuation or with medical methods. The "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya" also emphasises the importance of family planning counselling and services for all women receiving post-abortion care services (115).

To align with the "Standards and Guidelines for Reducing Morbidity and Mortality from Unsafe Abortion in Kenya" developed in 2012, the Kenya Essential Medicines List 2016 included misoprostol in the oxytocics section for the first time. Misoprostol was indicated for use in the prevention and treatment of postpartum haemorrhage and excessive bleeding after childbirth, under close supervision. Mifepristone and misoprostol combined were included

in the oxytocics section but under the specialist list (116). In 2019, both mifepristone and misoprostol were placed under the Kenya Essential List 2019 (117).

About 120,000 women seek post-abortion care annually to treat complications caused by unsafe abortion at health-care facilities (113). However, studies reveal that the complete package of high-quality post-abortion care service, which incorporates contraceptive counselling, is still not completely implemented in Kenya (118). As the abortion law is confusing in Kenya, health-care providers are reluctant to provide care, and they are also conservative and stigmatising in their attitudes towards abortion and post-abortion care services (86, 90, 119). Furthermore, post-abortion care is provided by faith-based organizations that refuse to provide contraceptive counselling. Consequently, clients are referred to family planning facilities, although such referrals have been demonstrated to be ineffective (120, 121). Health-care providers are also afraid of providing post-abortion care services because society might label them as abortionists (119).

2.8.6 Stigma related to abortion and contraceptive use

In Kenya, women and adolescent girls have poor knowledge and understanding of the legal context regarding abortion and the availability of safe abortion services. The common perception is that no abortion is safe. Abortion is surrounded by silence, secrecy and social stigma. Women and adolescent girls with unintended pregnancy fear stigmatisation and legal prosecution. Therefore, they hesitate to seek professional health care and opt for less-skilled abortion providers outside authorised health-care facilities, which frequently use outdated methods that are considered unsafe (122).

Also, due to religious and cultural beliefs, post-abortion care providers often exclude evidence-based contraceptive counselling, as the Christian Church is traditionally against contraception (118). Many health-care providers strongly believe that premarital sex is sinful and that contraceptives are only for married women. Contraceptives are therefore not provided to adolescent girls, as it is believed contraceptives are physically harmful for this age group and associated with immorality and a promiscuous lifestyle (86).

2.8.7 The education system and comprehensive sexuality education

Education has a fundamental role in a nation’s economic and social development, as it contributes to individual growth, the capacity to create wealth and the ability to live a healthy life. An individual with an educational degree can enter a professional workforce, and this will contribute to quality of life. However, an individual’s basic cognitive skills are

dependent on the quality of the educational system. A weak educational system may therefore affect a nation's human capital development (123).

In 1964, one year after achieving its independence from Britain, Kenya implemented a centralized education system in line with the British education system. However, this system was replaced in 1985 by the current 8-4-4 system, which is aligned with the American system of education with "eight years compulsory primary education, four years of secondary education, and four years of higher education at a university" (124).

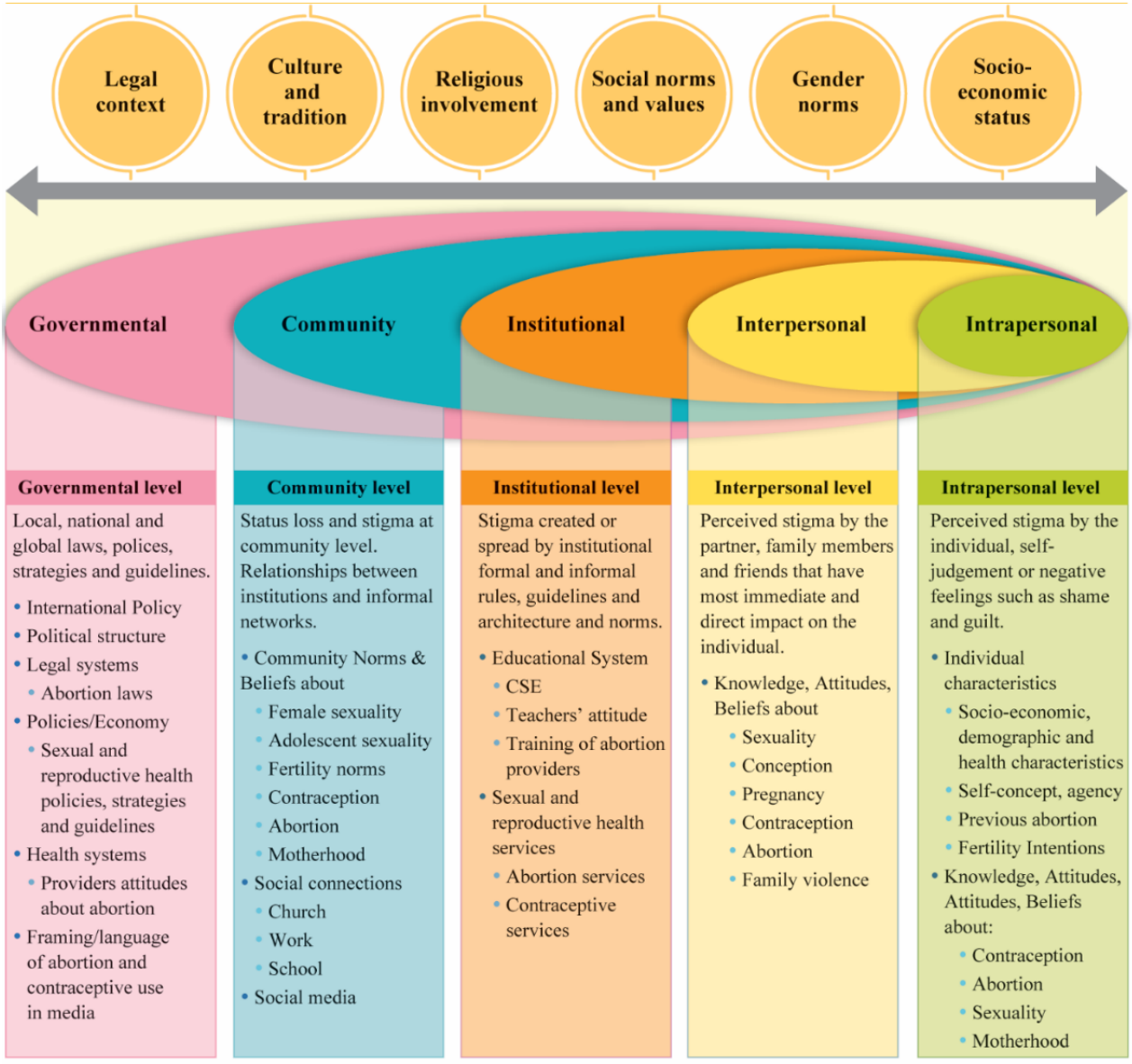
In Kenya, primary education is high at 86% participation, but only 33% of students continue to secondary education, even though it is financially covered by the Government of Kenya (98). The gap between the proportion of females and males with no education is non-existent from age 10 to 14. About 4% of both girls and boys have no education between the ages of 10 and 14. However, thereafter the gap steadily increases, and the total number of years of completed schooling is lower among women (5.8 years) compared to men (6.3 years). The proportion of individuals who have never attended school varies intensely across counties. In Nairobi, the capital, only 5% of all women have never attended school, while the proportion of women who have never attended school is 69% in North Eastern Kenya (98).
In 2013, the Kenyan government committed to scaling up its comprehensive rights-based sexuality education (125). Furthermore, the National Adolescent Sexual and Reproductive Health Policy 2015 aims "to enhance the Sexual Reproductive Health status of adolescents in Kenya and contribute towards realization of their full potential in national development" (126). Some priority actions are stated in the Policy document, and three are directly related to this thesis: (a) to promote adolescent sexual and reproductive health and rights, (b) to increase access to sexual and reproductive health information for adolescents and age-appropriate comprehensive sexuality education, and (c) to reduce adolescent pregnancy and unintended pregnancy (126).

Although several supportive policies exist in Kenya, the implementation of sexuality education lacks comprehensiveness. Teachers have mainly focused on abstinence to promote HIV education, and the majority of the rights-based CSE subjects have not been taught at Kenyan schools. In other words, comprehensive sexuality education is a long way from being institutionalized in Kenya (127); therefore, adolescents and young people lack adequate information on basic sexual and reproductive health.

3 CONCEPTUAL FRAMEWORK

The purpose of this conceptual framework (Figure 3) is to appreciate specific aspects of social phenomena in relation to stigma surrounding abortion and contraception. Inspired by several stigma researchers, I have used the social ecological model as an analytical lens for the levels of stigma associated with abortion and contraception at the individual, interpersonal, institutional, community and governmental levels. The model emphasises the complex interchange between factors at various levels and what drives and facilitates stigma associated with abortion and contraception.

Figure 3: Conceptual framework on stigma surrounding abortion and contraception



Source: Kumar et al. (44), Makleff et al. (128), Shellenberg (129), Millar (91) and Stangl et al. (130).

The social ecological model originates from the Ecological Systems Theory developed in 1979 by an American psychologist and researcher, Urie Bronfenbrenner (131). The aim of the Ecological Systems Theory was to describe the relationship between children and their environment. Since then, countless researchers have modified the model. Social ecological models emphasise multiple levels of influence (such as "individual, interpersonal, institutional, community and policy") (132), suggest interrelationships between levels, and suggest that behaviours both shape and are shaped by the social environment (132). This principle is in line with social cognitive theory concepts that emphasise the importance of an environment conducive to change in order to achieve change at an individual level.

This thesis uses a variation on Bronfenbrenner's model as the conceptual framework for stigma associated with abortion and contraception, with adaptations from Makleff et al. (128), Shellenberg (129), Stangl et al. (130) and Kumar et al. (44) and is outlined as follows:

Governmental-level stigma: local, national and global laws, polices, strategies, and guidelines. International and national laws, policies, strategies, and guidelines regarding abortion and contraceptives can alienate and exclude individuals in need of these services, reinforcing the stigma surrounding abortion and contraceptive use. This overarching structural level includes policies and programmes at global, national and local levels, which are reflections of several social norms, attitudes, and beliefs that may fuel stigma associated with abortion and contraception.

Community-level stigma: relationships and communications between organizations, institutions, churches, informal networks and neighbourhoods within a politically or geographically defined boundary. This level relates to the environment in the community and represents the context in which an individual lives. Stigma surrounding abortion and contraceptive use may be obvious and direct within social connections in the community, such as during religious ceremonies, in workplaces and schools, and while conducting recreational activities. Community norms, attitudes and beliefs regarding sexuality, fertility, and motherhood have been shown to influence communities' views and perceptions of abortion and contraceptive use.

Institutional-level stigma: stigma created or spread by institutional formal and informal rules, guidelines and norms. This level includes the climate in schools, health-care systems, administrations and organizations.

Interpersonal-level stigma: perceived stigma by the partner, family members and friends that have the most immediate and direct impact on the individual. This includes schoolmates.

Intrapersonal-level stigma: perceived stigma by the individual, self-judgement, or negative feelings such as shame and guilt. This level includes not only individuals who have experienced an abortion and adolescent girls using contraceptives but also individuals such as abortion providers and supporters of those women.

As shown in Figure 3, all five levels of stigma in the conceptual framework are influenced and driven by legal context, cultural and religious beliefs, social norms and values, gender norms, and socio-economic status. All these drivers are relevant when identifying consequences and solutions in relation to abortion-and-contraceptive-use stigma.

4 RATIONALE

Women's and adolescent girls' right to reproductive health information, education and services are frequently violated, even though it is grounded in internationally recognized human rights treaties, along with women's right to equality, the "right to the highest attainable standard of health" (12), the right to decide when to have children, the right to non-discrimination, and the right to education (12, 13). All individuals have the right to freely make decisions about their bodies, free of coercion, discrimination and stigma (2).

In western Kenya, early sexual debut, sexual activity without protection and unwanted pregnancy are major concerns facing women and adolescent girls. Despite the high occurrence of unwanted pregnancies and abortions in Kenya (113), there is a shortage of research that appraises a fundamental barrier to reproductive information, education and services—that is, social stigma associated with abortion and contraception. Abortion stigma has been conceptualized in the United States (84). However, insufficient theoretical and methodological tools exist to develop a profound understanding of the dilemma, particularly in low-income countries such as Kenya. Developing research tools to measure social stigma and designing interventions to reduce social stigma is a priority—not only from women's and providers' perspectives, but as a social and cultural process. Regardless of national policies and the growing knowledge base of evidence-based CSE, there is a large gap between policy and practice in Kenya. The Kenyan government supports provision of CSE, yet the policies largely promote an abstinence-only approach based on Christian and other religious beliefs.

The present research project intends to explore the topics of interest with a mixed-method approach. By linking the results from Studies I, II, and III to the conceptual framework with a "stigma lens," this PhD thesis will advance knowledge about constituents of stigma related to abortion and contraceptive use, and how this stigma can be addressed at secondary schools within the CSE programme. The long-term goal for the outcome of this thesis is to inform national and local strategies to reduce social stigma, which has direct consequences for improved access to abortion and contraceptive information, education and services, as well as improved reproductive health for those affected by stigma.

4.1 OVERALL AIM

The overall aim of this doctoral thesis was to increase knowledge on the constituents and consequences of, and solutions to, social stigma surrounding abortion and contraceptive use among women seeking post-abortion care, as well as secondary school students, in Kisumu, Kenya.

4.2 OBJECTIVES

I. To explore decision-making pathways preceding induced abortion among women with unwanted pregnancies in western Kenya. **(Paper I)**

II. To analyse whether reporting a pregnancy as unplanned or planned is associated with contraceptive uptake, and to analyse predictors of unplanned pregnancy among women seeking post-abortion care in a low-resource setting in Kenya. **(Paper II)**

III. To measure stigmatising attitudes surrounding induced abortion and contraceptive use among secondary school students in western Kenya. **(Paper III)**

IV. To assess whether a stigma-reduction programme that promotes gender equitable norms and value clarification was effective in transforming attitudes and beliefs regarding abortion and contraceptive use among secondary school students in Kisumu, Kenya. **(Paper IV)**

5 MATERIAL AND METHODS

The three research studies included in this thesis are two health-facility-based studies and one school-based study in Kisumu, Kenya. The first study used a qualitative design with in-depth interviews. The second study was a cross-sectional study using data from a larger randomised controlled trial. The third study had a quasi-experimental design. Table 1 describes the aim, design, participants and method used for data analysis for each study.

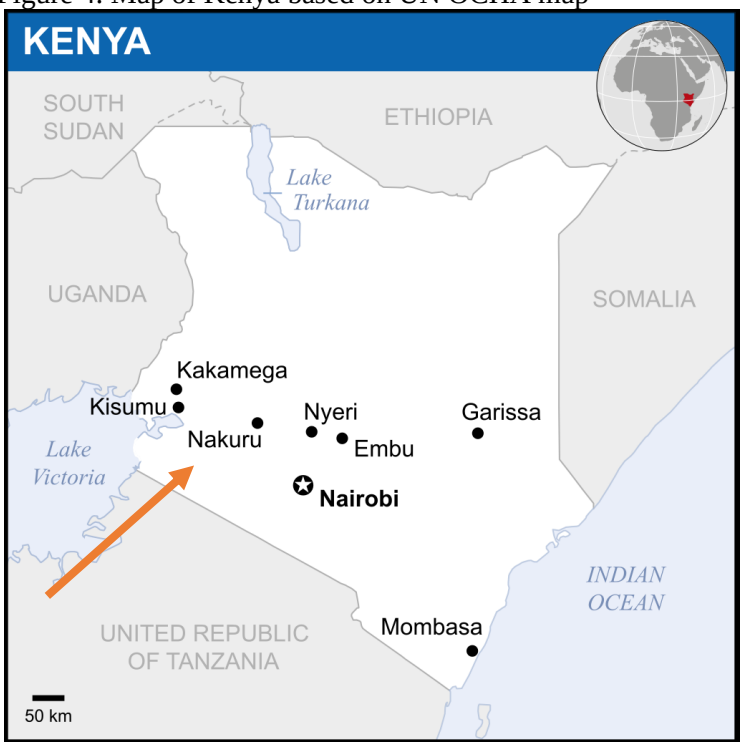
Table 1: Outline of papers included in the thesis

	Study I Paper 1	Study II Paper II	Study III Paper III	Study III Paper IV
Title	Decision-making preceding induced abortion: a qualitative study of women's experiences in Kisumu, Kenya	Contraceptive uptake among post-abortion-care-seeking women with unplanned or planned pregnancy in western Kenya	Abortion-and-contraceptive-use stigma: a cross-sectional study of secondary school students in western Kenya	A stigma-reduction intervention targeting abortion-and-contraceptive-use stigma among adolescents in Kenya—a quasi-experimental study
Aim	To explore decision-making pathways preceding induced abortion among women with unwanted pregnancies.	To investigate contraceptive uptake among post-abortion-care-seeking women reporting either planned or unplanned pregnancies and to identify factors associated with unplanned pregnancies	To measure stigmatising attitudes surrounding induced abortion and contraceptive use among secondary school students.	To test the efficacy of a school-based intervention for reduction of stigma related to abortion and contraceptive use.
Design and instruments	In depth interviews 15 individual face-to-face in-depth interviews using open-ended questions and a non-judgmental approach	Study nested in a randomized controlled trial on women who sought post-abortion care in a low-resource setting in western Kenya	Cross-sectional survey study A classroom survey using validated questionnaires; ASABA scale and CUS scale	A quasi-experimental study
Data collection	January 2014 to May 2014	June 2013 to May 2016	February 2017	February 2017 to February 2018
Participants	Nine women aged 19-32 years old who had experienced an induced abortion	Follow-up with 807 women at 7–10 days and with 472 women at 3 months	1207 secondary school students from two secondary schools in a suburban setting in western Kenya	Two gender-mixed secondary schools in peri-urban areas of Kisumu, Kenya. One intervention school and one control school were randomly drawn. In total, 1207 students participated in the study.
Analysis	. Inductive content analysis . open coding . category development . abstraction	. Descriptive statistics . Binary logistic regression analysis	. Descriptive statistics . Binary logistic regression analysis	. Descriptive statistics . Analysis of variance (ANOVA) . Pearson chi-squared tests . Student t-tests . Two sample t-tests

5.1 THESIS SETTING

In 2010, with Kenya's new constitution, the eight provinces were substituted by 47 counties and 209 sub-counties (132). Data collection for this thesis took place in Kisumu County, one of the 47 counties in the Republic of Kenya. According to the 2019 National Census, Kisumu County has a population of 1,156,000 people (95) and is divided into seven sub-counties. Kisumu is the third largest city in Kenya, with about 568,000 people, after Nairobi, the capital, and Mombasa, the coastal city. Kisumu city is the capital of Kisumu County and comprises three sub-counties: Kisumu East, Central and West. Kisumu County is a low-income area with a high proportion (40%) of adolescents under the age of 15 (96). Despite its opportunities in the fishery industry, Kisumu city is one of the poorest cities in Kenya. Over 15% of its population has HIV/AIDS and around 60% lives in areas widely considered to be slums (98).

Figure 4: Map of Kenya based on UN OCHA map



Credit: UN Office for the Coordination of Humanitarian Affairs (OCHA)

5.2 STUDY I AND II

Study I and II aimed to explore decision-making preceding induced abortion and contraceptive uptake among women seeking post-abortion care in Kisumu, Kenya. The main objective of these two studies was not directly stigma; however, stigma was indirectly included and analysed.

5.2.1 Research process

Study I and II were implemented within the "Department of Obstetrics and Gynaecology at Jaramogi Oginga Odinga Teaching and Referral Hospital" (JOOTRH) (level 5 county referral hospital) and Kisumu County Hospital (level 4 sub-county hospital), which are two public health-care facilities in Kisumu County. Altogether, the two facilities admitted around 20–32 women per month with incomplete abortion and abortion-related complications during the study period. This number of women admitted to the two facilities is according to registered cases in line with ICD-10. However, as abortion is restricted in Kenya by their national law, reliable data regarding abortion is scarcely found in this setting.

Study I was a qualitative study using in-depth interviews, while Study II was a cross-sectional study nested in a randomized controlled trial. When I joined the research team at Karolinska Institutet (KI), they had already established a strong working relationship with a local non-governmental organization (NGO), "Kisumu Medical and Education Trust" (KMET), based in Kisumu, Kenya. I was assigned to lead the ethical approval process in collaboration with KMET in 2013. At that time, I lived in Nairobi, Kenya and visited Kisumu regularly to collaborate with the national staff at KMET for the start-up and implementation of the research project.

5.2.2 Study I

5.2.2.1 Instrument

Based on research gaps identified in the literature and in collaboration with the research team at Karolinska Institutet and the local team in Kisumu, I developed a draft semi-structured interview schedule including open-ended questions and suggestions for probing. The questions were framed to collect data on women's decision-making preceding induced abortion, plus how their social networks influenced them. The instrument was discussed with the research team and further enhanced. The instrument was also pilot tested on two participants and slightly modified before the initial data collection. (Appendix 1).

5.2.2.2 Study population and sampling

Midwives in the Obstetric and Gynaecological Ward at the two study sites were recruited as research assistants and supported the research team in identifying and approaching potential respondents between 1 January 2014 and 31 May 2014. The midwives had been trained and given clear inclusion criteria to be used for the purposive sampling of the study participants.

The inclusion criteria were: women over 18 years of age who had received post-abortion care at JOOTRH or Kisumu District Hospital or were admitted due to complications after an unsafe abortion and agreed to be interviewed. The midwives discussed with the women seeking post-abortion care their current pregnancy history and if they had induced the abortion. All women who met the inclusion criteria and were approached by a midwife agreed to participate. In line with ethical procedures, all women were informed about the purpose of the interview and assured of their confidentiality. In total, nine women aged 19–32 years were approached, and all agreed to participate in the study and were individually interviewed. Six of the nine women agreed to participate in a follow-up interview. Therefore, a total of 15 individual, in-depth interviews took place. The decision to conduct follow-up interviews was made by the research team in hopes of developing rapport with the women and thereby improving our understanding of the subject.

5.2.2.3 Data collection

For the data collection, I collaborated with a postgraduate student in Global Health. I was based in Nairobi and co-supervised the master's student while she conducted the in-depth interviews between February and April 2014. In total, six individuals were interviewed face-to-face after their follow-up visit at the hospital 7–10 days after receiving post-abortion care. All interviews took place at the hospitals in a private room. Two individuals were interviewed at the time of the three-month follow-up visit, and one individual was interviewed while she was still admitted to the ward receiving post-abortion care. One participant needed an English–Luo translator. When conducting in-depth interviews concerning sensitive topics, repeated interviews can be additionally valuable. Therefore, we decided to offer a repeated interview to all informants approximately 2–5 weeks after the initial interview. In total, six respondents agreed to a second interview. Five of them were interviewed face-to-face at the hospital in a closed private room, while one respondent was interviewed over the phone due to logistical constraints. In this case, the interviewer was based in a private, closed room at KMET. Three respondents opted not to be interviewed a second time. The interviews lasted on average 45 min and were type recorded. Once theoretical saturation was reached, we finalized the data collection.

5.2.2.4 Analysis

The analysis was initiated by the transcription, which was conducted by me and the master's student verbatim. Directly after each interview, the master's student who conducted the interviews made comprehensive field notes. In her field notes, she included reflections, initial thoughts and reactions to what she had heard from the participants. The field notes were also considered when conducting the analysis. The master's student and I held daily virtual meetings in addition to follow-up meetings in Nairobi to review progress and discuss interview techniques. As a co-supervisor for the master's student, I also provided mental support after emotional interviews and with respect to cultural challenges and constraints. We continuously reported back to the whole research team (Karolinska Institutet and KMET) via Skype and asked for additional guidance and support when needed. We used inductive content analysis, including open coding, category development and abstraction for analysing the data (133). The transcripts and field notes were read through several times by both of us. We identified meaning units and relocated them to an Excel document for classification into subcategories, generic categories and main categories. All members of the research team discussed the meaning units and categories to further improve the analysis and to maximise rigour.

This qualitative research was essential for providing insight into decision-making pathways preceding induced abortion among women and adolescent girls with unwanted pregnancies, their experiences with stigmatisation, and how stigma impacted their decision-making process. The qualitative methodology is well-suited for investigating these themes that explore the "why" and "how" of women's decision-making processes.

5.2.3 Study II

In conjunction with a large randomized controlled trial (134), we conducted additional data collection at the two hospitals during the provision of post-abortion care services.

5.2.3.1 Instrument

I developed a face-to-face questionnaire for Study II based on research gaps identified in the literature with support from supervisors and the local research team. This schedule was used to collect data for Study II after it had been pre-tested by trained midwives at the study sites (Appendix 2). The questionnaire was prepared in English and then translated into Luo and Kiswahili, two local languages in Kisumu. The questionnaire was back translated into English to safeguard the consistency of meaning. The background characteristics of the

participants comprised age, marital status, education, occupation, religion, gestational age, previous pregnancy and gravidity. The questionnaire was based on a series of questions, primarily: "Was this pregnancy planned, does anybody know about this pregnancy", and "did your partner accompany you to the post-abortion care clinic?". At the follow-up visit (7–10 days after post-abortion care treatment), the midwives asked if the woman had selected any contraceptive method before discharge after the post-abortion care treatment. Women who answered that they had accepted a contraceptive method were then asked when they had started and what method they were currently using. Likewise, during the follow-up visit at three months, the midwives asked if the woman was still using a modern contraceptive method.

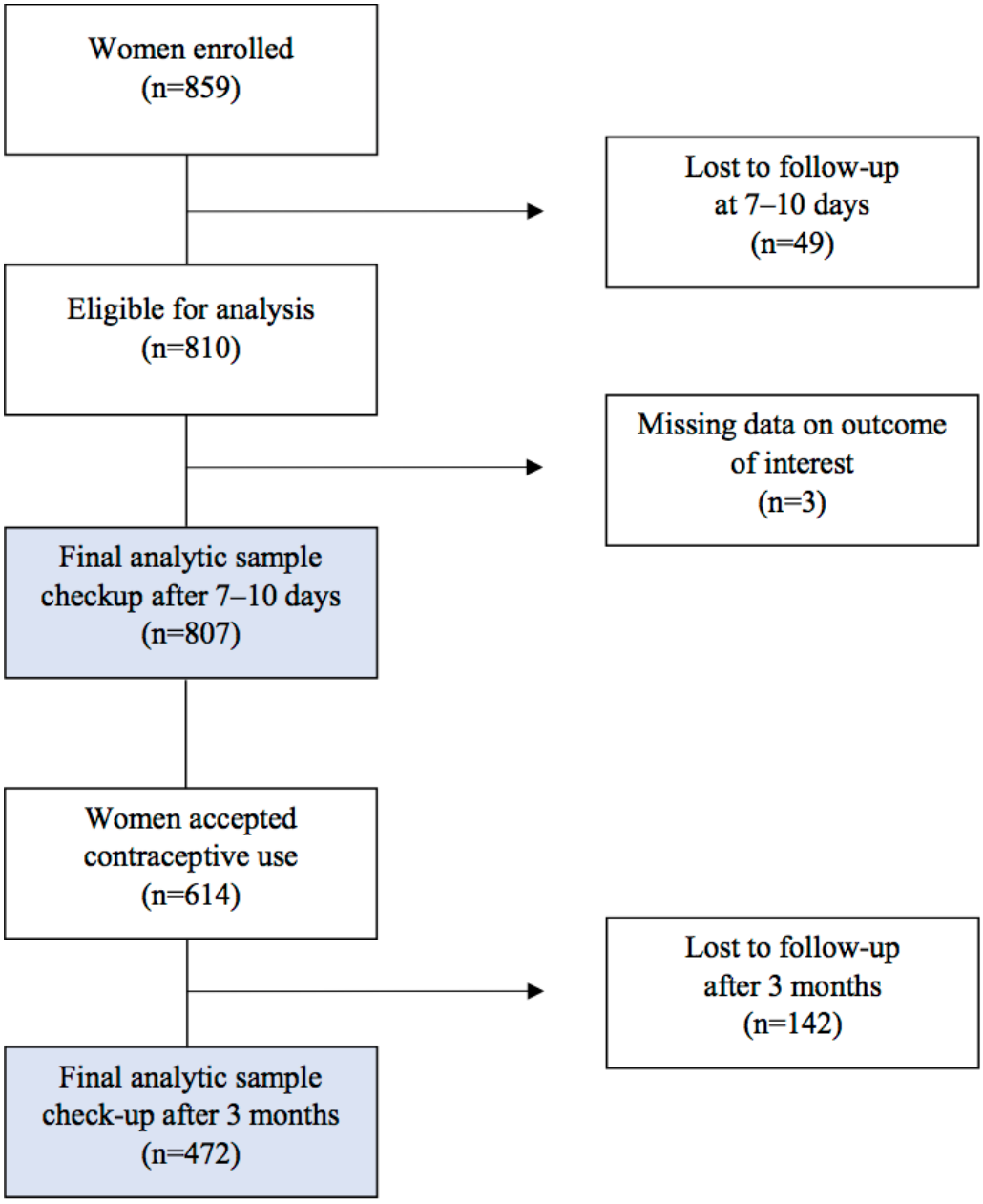
5.2.3.2 Study population and sampling

The eligibility criteria for the randomized controlled trial were women or adolescent girls with incomplete first-trimester abortions seeking post-abortion care at the two selected hospitals. The participants in the randomized control trial ($N = 859$) were randomly allocated to post-abortion care provided by physicians or midwives. Before initiating the randomized control trial, the providers were trained in a 5-day standardised post-abortion care service training programme. Before leaving the hospital, all participants were offered contraceptive counselling and their choice of a contraceptive method if they desired. All women were provided with a follow-up appointment after 7–10 days. In total, 810 women were eligible for Study II, as 49 women were lost to follow-up after 7–10 days. Also, three women did not provide information regarding pregnancy intention (unplanned vs planned pregnancy) and therefore were not included in the Study II (see Figure 5). Data collection took place from 1 June 2013 to 31 May 2016.

5.2.3.3 Analysis

The variables were dichotomized, and descriptive statistics were used to describe the background characteristics in frequencies and proportions. Pearson's chi-squared test ($\chi 2$) was used to assess whether there was a statistically significant difference between the two groups, women reporting unplanned pregnancies and women reporting planned pregnancies, with a significance level of p-value < 0.05. Finally, a binary logistic regression with odds ratios (OR) and 95% confidence intervals (CI) was conducted to explore factors associated with unplanned pregnancy.

Figure 5: Trial Flow Chart (published in Paper II)



5.3 STUDY III

Study III was implemented at two gender-mixed public secondary schools in Kisumu East and Central sub-counties in western Kenya. These schools are in the Manyatta and Nyalenda settlements, respectively. During data collection, the intervention school had approximately 800 students enrolled over four streams, while the control school had about 700 students enrolled over three streams. Both schools base their education on Christian religious education, a common framework for curricula in Kenya.

Study III aimed to measure stigmatising attitudes and beliefs regarding abortion and contraceptive use among secondary school students in western Kenya and to develop and test the efficacy of a school-based abortion and contraceptive-use-stigma-reduction intervention for Kenyan adolescents.

5.3.1 Research process

Study III was an intervention study using a quasi-experimental study design.

5.3.1.1 Instrument

For Study III, we used two validated scales: Adolescent Stigmatizing Attitudes, Beliefs and Actions (ASABA) and Contraceptive Use Stigma (CUS) (Appendix 3). The two scales were developed and validated by the research team at Karolinska Institutet (135). Both scales are based on the validated tool Stigmatizing Attitudes, Beliefs and Actions (SABA), an 18-item scale developed in 2013 by Ipas (136). The 18-item ASABA scale measures three dimensions of abortion stigma: negative stereotyping (8 items), exclusion and discrimination (7 items), and fear of contagion (3 items). The ASABA and CUS scales used a five-point Likert scale, and the students provided their answers from strongly disagree (1) to strongly agree (5). Therefore, each respondent had a summed response score reaching from a minimum of 18 to a maximum of 90 for the ASABA scale and a minimum of 7 to a maximum of 35 for the CUS scale. A higher score meant stronger agreement with the statement and therefore higher levels of stigma towards abortion and contraceptive use. As the school students came from two settlements in Kisumu County, we considered their families to be in a low socioeconomic position. As the research topic was sensitive, we wanted to ensure confidentiality and therefore only added age and gender as independent variables to the survey. We included two closed-ended questions regarding sexual behaviour: “Have you had your sexual debut (intercourse)?” and “Did you use any contraceptive method during your last intercourse?”.

5.3.1.2 Study population

A sample frame of 21 secondary schools within Kisumu County was screened, and 5 secondary schools were selected, as they met the inclusion criteria and ensured comparability of communities with respect to baseline data. The schools had to meet the following characteristics to be considered for the study: (a) public secondary day schools of mixed gender, (b) located within a sub-urban area in Kisumu County, (c) hosting a minimum of 400 students and (d) with Christian religious education, as this holds a key position in the Kenyan

school curriculum. One of the five schools that met the inclusion criteria declined to participate. Two schools were randomly allocated to be intervention and control schools. The principal statistician at the coordinating department at KMET wrote the four names of the schools on four pieces of paper and then mixed the papers and manually drew one piece of paper at a time. The first piece of paper drawn was assigned to be the intervention school, the second piece of paper to be the control school, and the two last notes were read for the sake of transparency. In total, a homogenous group of 1,207 students (Intervention School=555; Control School=579), aged 14–21 years, participated in Study III.

In February 2017, the two scales (ASABA and CUS) were distributed as a self-reported classroom questionnaire survey among the secondary students at the two suburban secondary schools in Kisumu, Kenya. The data collected in February 2017 was used for the baseline of the quasi-experimental study and Paper III. The second and third data collection took place in March 2017 and February 2018, respectively, and was used for Paper IV.

5.3.1.3 Analyses specific to Paper III

In this paper, we wanted to measure stigmatising attitudes and beliefs concerning abortion and contraceptive use among secondary school students. We started the analysis by developing three age groups: 16–17 years, the average group ($n = 590$); 13–15 years, the younger group ($n = 274$); and 18–21 years, the older group ($n = 328$). The reasoning behind the groups was based on the education system, syllabus and social aspects regarding abortion and contraceptive use in Kenya, but also to disclose comparable age groups for statistical analysis.

We used descriptive statistics to describe the study population and stigma scores. Pearson's χ^2 test was used to test the differences between age groups and between females vs males. An independent sample t-test was used to compare means. P-values equal to or lower than 0.05 were considered statistically significant. All statistical analyses were performed using IBM SPSS Statistics for Windows, Versions 25 and 22.

The answers on the ASABA and CUS scales were categorised into three groups, 1–2 (do not agree), 3 (unsure) and 4–5 (agree). We then calculated the summed scores and categorized the summed score of the ASABA scale as either high (summed score ≥ 46) or low (summed score < 46), and the summed score of the CUS scale was categorised as either high (summed score ≥ 19) or low (summed score < 19). The cut-off point was determined based on the median calculated on the total score for both the ASABA scale and the CUS. Binary logistic

regression analysis was used to assess the relationship between the dependent variable (high level of combined stigmatising attitudes on abortion and contraceptive use) and independent variables (gender and age). The associations were presented as OR with a 95% CI.

5.3.1.4 Analyses specific to Paper IV

In this paper, we aimed to assess the efficacy of a school-based stigma-reduction programme. We used Pearson's $\chi 2$ test for categorical variables and the student t-tests for continuous variables to compare the characteristics between participants at the intervention school and the control school at baseline. We used ANOVA to analyse the differences among group means at the intervention school and the control school at baseline, 1-month and 12-month follow-ups. Changes in values were calculated by subtracting baseline values from the follow-ups. To evaluate the effect of the intervention, two sample t-tests were performed to compare total score changes (between baseline, 1-month and 12-month) between the intervention school and the control school. The detailed analysis for the two closed-ended questions regarding sexual behaviour ["Have you had your sexual debut (intercourse)?" and "Did you use any contraceptive method during your last intercourse?"] needed further analysis and therefore is not included in this thesis.

5.4 ETHICAL CONSIDERATIONS

The design and performance of each study were conducted in line with the World Medical Association Declaration of Helsinki (137). As this thesis is focused on a sensitive topic—abortion-and-contraceptive-use stigma—several ethical considerations had to be weighed.

For Studies I and II, the JOOTRH Ethical Review Committee in Kisumu (Diary Number ERC 42/13) and the Swedish Regional Ethics Committee in Stockholm (Reference number 2013/902–31/1) granted ethical approval. For Study I, the participants (younger than 18 years) provided their verbal and written consent in their preferred language (English, Kiswahili or Luo), and respondents were asked consent to use the tape recorder before starting the interview. Also, the interviewer made a concentrated effort to ensure all participants were informed about privacy, confidentiality, safe storage of the data and that they could withdraw their participation at any time with no consequences. This was vital to build trust and confidentiality and to encourage the participants to openly and freely share private and intimate information about unintended pregnancies, clandestine abortion procedures, and relationships with male partners. The midwives at the hospital ensured that all interviews could take place in a private room at the hospital without any disruption. One

interview took place with an interpreter (Luo) who was strictly informed about the importance of confidentiality. Only the authors to Paper I had access to the interview material. We chose to only collect key sociodemographic characteristics of the participants to protect their anonymity. All respondents were given small financial compensation to cover transportation costs. The amount was kept small so that the voluntary nature of participation would not be jeopardised. After the first two interviews, we realized that some women had complex social situations and needed counselling and professional support. Therefore, we discussed this issue with KMET, and they arranged such support for the women in need.

For Study II, it was the midwives at the two hospitals that conducted the data collection at the follow-up visit 7–10 days after post-abortion care and again after 3 months. All midwives were trained to conduct the data collection according to ethical requirements and guidelines. Similar to Study I, we ensured that all participants were able to give informed consent, which included offering them information about the study aim and their right to pull out from the study at any time with no negative consequences. The consent form was read to all women in their preferred language (English, Kiswahili or Luo). All women signed the written consent form or marked the form with a thumbprint if they could not write their name. Study II was registered at Clinicaltrials.gov NCT01865136.

Study III was approved by the JOOTRH Ethical Review Committee in Kisumu (Diary Number ERC.1B/VOL.I/263) and the Kenyan National Commission for Science Technology and Innovation. All participants were given the opportunity to provide informed consent (verbal and written) in English and Kiswahili language. As the study population included minors under the age of 18, we also asked for written consent from the tutors. All students were informed that they could leave the study at any time with no consequences. The questionnaires were collected with only the age and gender of the participants (no names) to ensure anonymity. We believe that this encouraged the students to honestly fill in the questionnaire. Study III was registered at Clinicaltrials.gov NCT03065842. All data for this thesis was handled according to Kenyan law and guidelines (138).

6 FINDINGS

A brief overview of the study aim, outcome and main findings of this thesis are presented below in Table 2. A summary of the findings from Studies I–III follows the table. For further details, see the reprints of Papers I–IV attached at the end of this thesis.

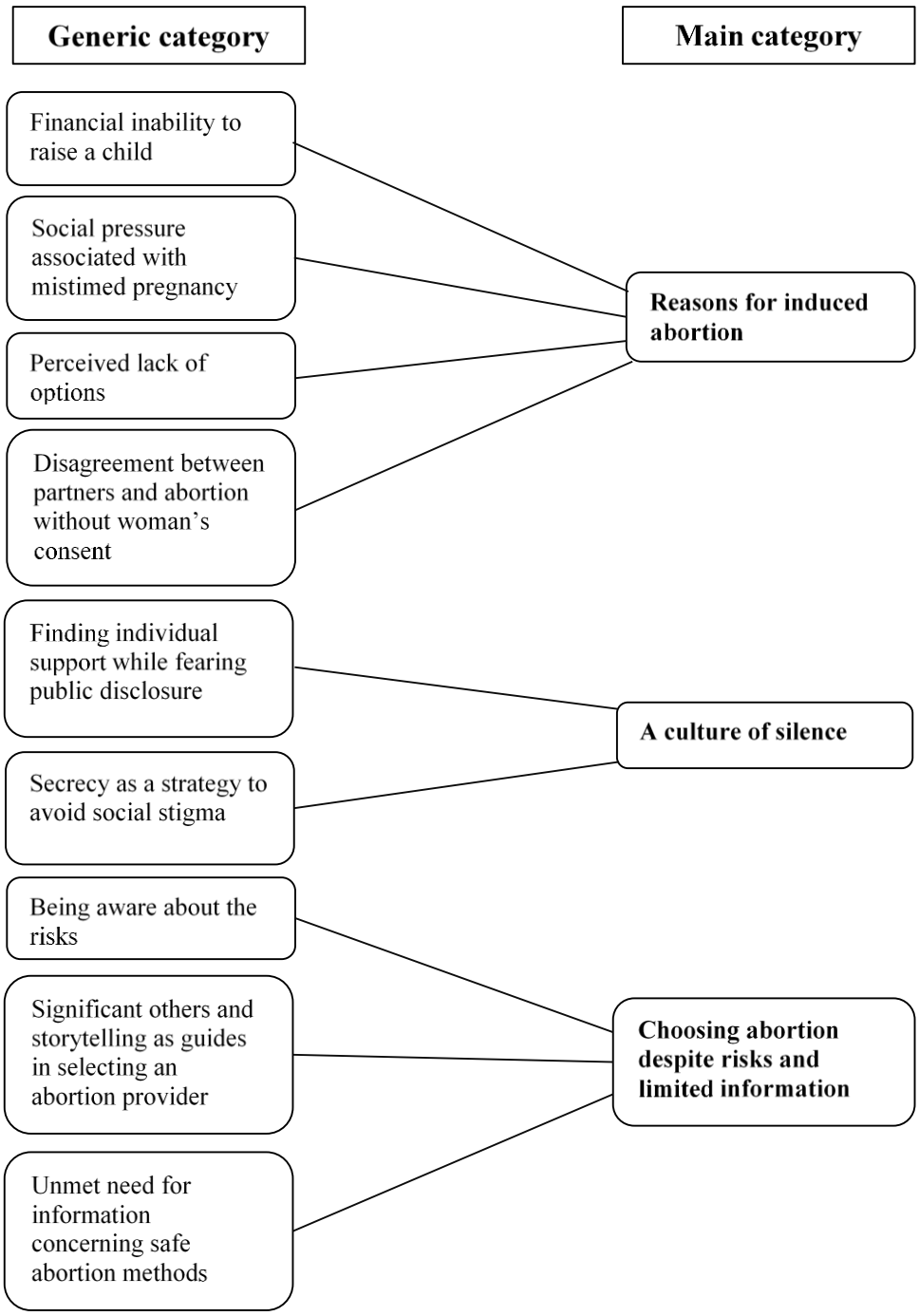
Table 2: Overview of study aim, outcome and main findings

	Study I Paper 1	Study II Paper II	Study III Paper III	Study III Paper IV
Aim	To explore decision-making pathways preceding induced abortion among women with unwanted pregnancies.	To investigate contraceptive uptake among post-abortion-care-seeking women reporting either planned or unplanned pregnancies and to identify factors associated with unplanned pregnancies	To measure stigmatising attitudes surrounding induced abortion and contraceptive use among secondary school students.	To test the efficacy of a school-based intervention for reduction of stigma related to abortion and contraceptive use.
Outcome	Three main categories: 1) Reasons for induced abortion 2) A culture of silence 3) Choosing abortion despite risks and limited information. The outcome facilitated understanding of what stigma does to women and adolescent girls.	Most women, regardless of reported pregnancy intention, agreed to start using contraceptives. Independent factors associated with unplanned pregnancy were young age (14–20 years), unmarried status, no previous children, hidden pregnancy and absence of a partner at the clinic visit. At 3-month follow-up, there was no difference in contraceptive use between the two groups.	Abortion and contraception are stigmatised by secondary school students in western Kenya. Stigma was more prevalent among male students and younger age groups compared to female students and older age groups. Abortion was considered a sin and shameful for the family and community, while girls using contraceptives were consider promiscuous.	The stigma score associated with abortion decreased between baseline and 12-month follow-up at both intervention and control schools, with decreases of 28.2% and 7.8%, respectively ($p < 0.001$). The stigma score for contraceptive use decreased; the reductions at Intervention School and Control School were 27.2% and 6.4%, respectively ($p < 0.001$).
Main findings	Women expressed fear of social stigma and therefore made strategic choices about whom to trust regarding their abortion intention. This contributed to a culture of silence around abortion that complicated their abortion decision pathways.	Social stigma surrounding abortion and contraceptive use may prompt women to hide pregnancy intention.	An eight-hour stigma reduction programme based on gender equality, equitable norms, and value clarification can be effective to reduce stigmatising attitudes among secondary school students.	A stigma-reduction programme within school-based CSE can lead to positive change in students' values and attitudes towards abortion and contraceptive use.

6.1 STUDY I

Three main categories progressed through the inductive content analysis: (a) reasons for induced abortion, (b) a culture of silence and (c) choosing abortion despite risks and limited information. The findings are presented under these three main categories with generic categories and quotes from the respondents. Figure 6 illustrates how the generic and main categories are related.

Figure 6: Generic and main categories (modified from figure published in Paper I)



1) Reasons for induced abortion

The first main category is defined through four generic categories: (a) financial inability to raise a child, (b) social pressure associated with mistimed pregnancy, (c) perceived lack of options, and (d) disagreement between partners and abortion without the woman's consent.

Financial inability to raise a child: The participants in this study emphasized that their pregnancies were mistimed, unplanned or unwanted at the time they realized they were pregnant. A strong driving factor for opting for abortion was described by most women as a lack of financial stability for raising a child. "I was financially unstable to sustain those children." (Respondent 8) Some respondents were concerned about losing their jobs if they continued with the pregnancy. "When [the pregnancy] is visible, you will be sacked. And when you are [alone] at home, who will support you? I have to work." (Respondent 6) Similarly, young women that were living with their parents mentioned that they would be kicked out and not supported.

Social pressure associated with mistimed pregnancy: Unmarried participants mentioned that they were worried about negative opinions and attitudes from their families and friends if they were to find out about the pregnancy. "Because [---] okay, people usually talk; in Kenya people will talk. Where you are staying, there are some people, those people like to gossip, people will definitely talk. [---] They'll say you are still in your mother's house [---] They won't be able to understand…and some will even criticise your relationship." (Respondent 5)

The women participating in this study said that a stable partnership, as well as a supportive social network, were important during the decision-making process. The women needed both financial and couched support. Male partners had a key role in this process and directly or indirectly influenced the women's decisions to opt for induced abortions. Unstable partner relationships were a common reason for deciding to have an abortion. "I already have two children; I am everything for these children… I am the mother and the father for these two children, so a third one would be too much problem. I just decided. I have to because that man never convinced me; I was not convinced at all that that man would provide anything." (Respondent 6)

Perceived lack of options: Women expressed feelings such as guilt, distress, shame and self-blame because abortion was perceived as something wrong and immoral. "I felt bad because it was like murdering someone, but [---] I felt part of killing the kid because [---] I felt miserable

for like a week [---] two weeks." (Respondent 2) Nevertheless, they could not see any option other than terminating the pregnancy due to their current economic, social or health circumstances. "I didn't have any option because I just knew that the situation I was in [HIV positive]; I was not able to [---] take care of this baby [---] according to the situation [HIV positive] now I was in." (Respondent 7)

Disagreement between partners and abortion without the woman's consent: The respondents mentioned that they had a different feeling about the pregnancy compared to their partners. Some women never told their partners about the pregnancy, as they knew the partners were strongly against abortion in general, and they feared the consequences. Single women had never told their ex-partners about the pregnancy.

The most striking finding in this study was that more than one woman said they were forced or even misled by their partners to terminate the pregnancy. "He suggested for the abortion to be done; I told him no. [---] So he insisted, and he insisted. When he saw I'm not participating, he used a trick and told me that if you don't want [an abortion] then I want to advise you on how to be when you are pregnant and what drugs [to] use. [---] He injected me through a vein and told me it's to improve the appetite… [---] After injecting that drug I became unconscious. When I returned from my unconsciousness, I found myself naked and I was bleeding." (Respondent 1) Respondent 1 told us that she had reported her ex-partner to the police. We do not know if the police raised a case against the ex-partner. In this and other such cases of forced abortion, we cannot imagine how the partners would describe the situation and justify their actions; that is beyond the scope of this research.

2) A culture of silence

This main category, *A culture of silence,* evolved from two generic categories: (a) finding individual support while fearing public disclosure and (b) secrecy as a strategy to avoid social stigma.

Finding individual support while fearing public disclosure: Women described the period after they realized they were pregnant as very stressful and they feared public discovery to some extent, but they also described a strong desire to tell someone about the pregnancy. This someone was in many cases a person the respondents could trust, like a sister or a friend who had also experienced an abortion. Respondents felt anxiety about the partner knowing about the pregnancy as they feared disagreement or abandonment. "I was doubting what to do and on the

other hand afraid of sharing with anybody. I believed if I share it with so many people some people will give me other advice, some will give me this; that's why I ended up sharing with my sister that I'm staying with because I trusted her." (Respondent 4)

Secrecy as a strategy to avoid social stigma: The participants expressed distress about social isolation, judgment, discrimination and rumours if the abortion were discovered. Respondents thought that society would see them as "killers." Fear of social stigma and discrimination were expressed by most respondents, including fear of segregation, being labelled as a prostitute and murderer, being accused of being unfaithful, and being considered unsuitable for marriage. "In campus if you get pregnant and your boyfriend says I cannot take care of the baby, I'm not the father and stuff, they will start saying you are just like the others [---] maybe you have sex for money? Maybe you don't know the father of the kid? [---] So, they start calling you names like whore, slut [---] Someone says you are just a whore like anyone else, and after that everyone starts to isolate you [---]." (Respondent 2) This fear of harmful rumours, negative reactions and consequences created a culture of silence. The respondents desiderated trustful support and confidentiality.

Christian values and beliefs were heavily significant in most of the interviews. Women raised the issue that abortion is a sin and not accepted in any case by the church. This was a fundamental reason for keeping the pregnancy and abortion secret. In the follow-up interviews, a few respondents declared they felt anxiety, guilt and worry when they attended church. They also repeatedly asked for forgiveness from God as they accused themselves of being sinners. "You see as a married woman [---] you see [---] it seems like the woman is not even ready for the marriage [---] so something is wrong with her that cannot be explained, so they [the husbands] don't like it so easy; they see it as a sin, so there is no way I can tell about the abortion to him as I know the consequences can be bitter for me [---] when you do such thing [abortion] since you are giving away God's blood, then you are trying to be like the Father. God gave you the child, and now you are removing it so it's a sin because you are competing with God." (Respondent 9)

3) Choosing abortion despite risks and limited information

The main category *Choosing abortion despite being aware of the risks* grew from three generic categories: (a) being aware of the risks related to abortion, (b) significant others and storytelling as guides for selecting an abortion provider, and (c) unmet need for information concerning safe abortion methods.

Being aware of the risks related to abortion: The abortion was described as a dangerous procedure, and all respondents mentioned they knew the health risks of opting for an abortion. Complications like death, infertility, infections, weakness and loss of body weight were commonly mentioned. The most common and emphasised complication described by the respondents was death. Abortion was frequently labelled as gambling with life and death: "I was [very] scared [---] because I know how dangerous it is. But I was like, okay—let it be, and if I'm going to die, so be it, that is how, that is my destiny now. [---] I had now decided; it's either death or survival. I was ready for anything." (Respondent 5) Although women understood abortion as risky and unsafe, they preferred this risk over continuing the pregnancy and giving birth.

Significant others and storytelling as guides in selecting an abortion provider: Women selected their abortion provider through informal discussions with friends who had personal experiences of unwanted pregnancies and abortion. Although some women knew about the organisation Marie Stopes International, only a few of them could visit professional abortion providers due to financial constraints, and many chose to go to the pharmacy directly to get misoprostol. "When I was in high school, we used to have some cases [of abortion] so I had that knowledge from school, so I just decided to do it on my own. [---] I also knew about other methods, but I was afraid to use the others because I had not tried to do it before." (Respondent 9)

Unmet need for information concerning safe abortion methods: Evidence-based information about safe, simple and common abortion procedures were limited or non-existent. Women only knew about unsafe abortion, which was described as hazardous and possibly fatal. Instead of seeking professional health care, women reached out to the local chemist. "[Abortion is] when you take drugs [---]; traditional herbals also terminate the pregnancy. Some people take juice, highly concentrated juice [---] only those ones [are the abortion methods I know of]." (Respondent 6) "I didn't know anything. I have a friend who went through it before [---], but she passed away two weeks after the abortion [---]." (Respondent 2).

6.2 STUDY II

In total, 810 women and adolescent girls received follow-ups after their post-abortion care, and of them, 807 women and adolescent girls reported their pregnancies as unplanned, 375 (46.3%) or planned, 432 (53.3%). All women and adolescent girls who chose a modern contraceptive method (*n*=614) were invited for a check-up visit at three months. In total, 472 women and adolescent girls participated in the three-month follow-up visit. Participants' sociodemographic characteristics are summarized in Table 3.

Table 3: Descriptive characteristics of the respondents (*n* = 807) (Table published in Paper II)

Characteristics[a]	**Total Sample**[b] ***n* (%)**	**Unplanned Pregnancy *n* (%)**	**Planned Pregnancy *n* (%)**	***p* Value**
Provider				
n	807	375	432	
Midwife	408 (50.6%)	191 (50.9%)	217 (50.2%)	0.842
Physician	399 (49.4%)	184 (49.1%)	215 (49.8%)	
Age (years)				
n	799	371	425	
Mean (SD)	25.06 (5.62)	24.08 (5.93)	25.94 (5.20)	
Range	14–45	14–45	14–43	
14–20	169 (20.9%)	112 (29.9%)	56 (13%)	< 0.001
21–30	509 (62.8%)	210 (56%)	297 (68.8%)	
31–45	121 (14.9%)	49 (13.1%)	72 (16.7%)	
Marital status				
n	810	375	432	< 0.001
Married or cohabitating	554 (68.45%)	164 (43.7%)	388 (89.8%)	
Single, divorced, separated or widowed	256 (31.6%)	211 (56.3%)	44 (10.2%)	
Religion				
n	810	375	432	< 0.001
Christian	796 (98.3%)	371 (98.9)	422 (97.7%)	
Muslim	14 (1.7%)	4 (1.1%)	10 (2.3%)	
Education				
n	810	375	432	0.090
None or primary grades 1–8	242 (29.9%)	122 (32.5%)	119 (27.5%)	
Secondary education	367 (45.3%)	172 (45.9%)	193 (44.7%)	
Tertiary education	201 (24.8%)	81 (21.6%)	120 (27.8%)	
Occupation				
n	805	375	432	< 0.001
Unemployed	379 (46.8%)	210 (56%)	168 (38.9%)	
Formal employment or self-employment	426 (52.6%)	161 (42.9%)	263 (60.9%)	
Gestational age based on last menstrual period (weeks)				
n	810	375	432	
Mean (SD)	5.73 (4.97)	5.63 (4.81)	5.78 (5.12)	
Range	0–12	0–12	0–12	

Previous pregnancy				
n	810	375	432	
Mean (SD)	1.79 (1.72)	1.78 (1.98)	1.8 (1.47)	
Range	0–12	0–12	0–7	
0	223 (27.5%)	126 (33.6%)	96 (22.2%)	< 0.001
1–3	467 (57.7%)	188 (50.1%)	277 (64.1%)	
4+	120 (14.8%)	61 (16.3%)	59 (13.7%)	
Parity (live births)				
n	808	374	431	
Mean (SD)	1.11 (1.36)	1.15 (1.56)	1.08 (1.57)	
Range	0–10	0–10	0–6	
0	356 (44%)	186 (49.6%)	169 (39.1%)	< 0.001

a) Data are *n* (%) unless otherwise stated.

b) The internal dropout rate had a range of 0–8 (0%–2.2%).

Decision-making

Women and adolescent girls who reported planned pregnancy (423, 97.9%) were more likely to have shared the information about the pregnancy compared to women who reported unplanned pregnancy (296, 78.9%, $p < 0.001$). Similarly, more women whose partners accompanied them for post-abortion care services reported planned pregnancy (318, 73.6%) compared to unplanned pregnancy (118, 31.5%, $p < 0.001$). While most women reported spontaneous abortion (miscarriage) (748, 92.3%), self-induced abortions were more frequently reported in the unplanned pregnancy group (50, 13.3%) compared to the planned pregnancy group (6, 1.4%; $p < 0.001$).

Contraceptive uptake among post-abortion-care-seeking women

Out of 807 women who came for the check-up visit at 7–10 days, 614 (75.8%) had chosen and initiated use of a modern contraceptive method. The distribution of women with unplanned (273, 72.8%) and planned pregnancies (338, 78.2%, $p = 0.072$) were similar. Also at three-month follow-up, there were no significant difference in contraceptive use between the two groups, unplanned (161 (77.4%) and planned pregnancy 193 (73.7%, $p = 0.350$).

Binary logistic regression to explore factors associated with unplanned pregnancy

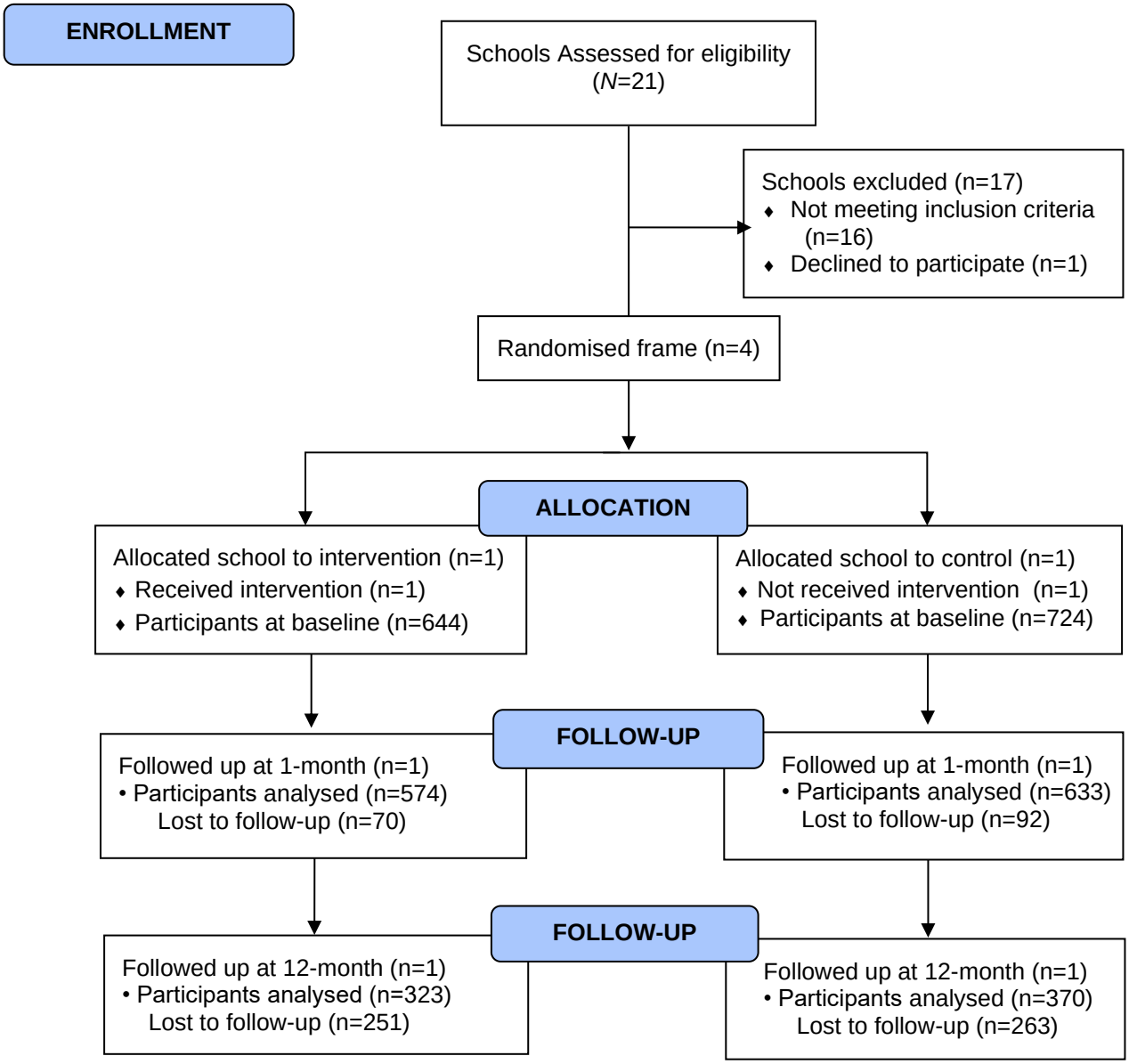
To explore the independent factors associated with unplanned pregnancy, a binary logistic regression ($n = 781$) was run and presented as OR with a 95% CI. The questionnaire included both previous pregnancy and number of live births. However, because of the high correlation between these two factors, only the live birth factor was included in the model. The factors associated with unplanned pregnancy were age of 14–20 years (OR 1.18; 95% CI, 1.05–2.82; $p = 0.033$), single/divorced/separated/widowed status (OR 9.15; 95% CI, 5.72–14.64; $p < 0.001$), nulliparity (OR 1.97; 95% CI, 1.29–3.01; $p = 0.002$), hiding pregnancy information (OR 7.71;

95% CI, 3.30–18.01; $p < 0.001$) and partner not accompanying the woman to the post-abortion clinic (OR 3.17; 95% CI, 2.21–4.55; $p < 0.001$). The Hosmer-Lemeshow test ($p = 0.810$) and the Nagelkerke R Squared ($p = 0.441$) indicated that the model fit the data.

6.3 STUDY III

In total, 1,368 secondary school students were eligible for the study (intervention school = 644; control school = 724). Out of these, 1,207 responses were analysed, as they had also responded at the one-month follow-up. At the 12-month follow-up, 693 students were enrolled. Figure 7 presents the study design.

Figure 7: Flow diagram (published in Paper IV)



At baseline, the 1,207 secondary school students (618 females and 582 males) from the two schools were in the age range of 13–21, with a mean (M) age of 16.66 years (Standard Deviation [SD] 1.5). The mean age for males was 18.84 (SD 1.56), which was higher than the mean age for females, 16.48 (SD 1.45, $p < 0.001$). At baseline, there were differences between the two secondary schools in the mean values for all three subscales of ASABA ($p < 0.001$), but no difference in the CUS scores ($p = 0.094$).

Table 4: Student characteristics (published in Paper IV)

	Total (*N*=1207)	**Intervention school (*n*=574)**	**Control school (*n*=633)**	***p* Value**
Baseline				
Female n (%)	618 (51.5%)	293 (51.4%)	325 (51.6%)	0.949
Male n (%)	582 (48.5%)	277 (48.6%)	305 (48.4%)	
Age, in years (M±SD)		16.4±1.5	16.9±1.5	**0.001**
Mean (1-5) subscales of ASABA (M±SD)				
Negative stereotypes, 8 items		3.41±0.76	3.50±0.72	**0.037**
Discrimination and exclusion, 7 items		1.79±0.65	1.90±0.67	**0.005**
Potential contagion, 3 items		1.83±0.78	1.95±0.73	**0.005**
Mean (1-5) full scale (M±SD)				
Total 18 items ASABA		2.52±0.55	2.62±0.52	**0.001**
Total 7 items CUS		2.68±0.83	2.75±0.74	0.094
1-month follow-up				
Female *n* (%)		293 (51.4%)	325 (51.4%)	0.949
Male *n* (%)		277 (48.6%)	305 (48.4%)	
12-month follow-up				
Female *n* (%)	363 (52.4%)	170 (52.6%)	193 (52.2%)	0.902
Male *n* (%)	330 (47.6%)	153 (47.4%)	177 (47.8%)	

a) The analysis is based on responses to all questions in the table.
b) The internal drop-out range was between 7–33 (0.6–2.7%).

At baseline, most students agreed with sentiments in the Negative Stereotyping subscale, where the item "A girl who has an abortion is committing a sin" showed the strongest agreement (90%), followed by "A girl who has an abortion brings shame to her family," with 73% agreement. For contraceptive-use stigma, the sentiments with strongest agreement were "A girl who uses contraception will encourage others to be promiscuous," with 47% agreement, and "A girl who uses contraceptives will have problems when she decides to get pregnant," with 45% agreement.

Table 5 demonstrates the mean scores for the two stigma scales by gender at baseline. The results show that male students had higher mean scores (mean 47.56, SD 9.43) for negative attitudes towards abortion compared with female students (mean 45.04, SD 9.55), $p < 0.000$. Similarly, male students had a higher mean score for replies on contraception-use stigma (mean 19.67, SD 5.17) versus female students (mean 18.41, SD 5.68), $p < 0.000$.

Table 5: Descriptive statistics for the ASABA and CUS scales by gender (published in Paper III)

ASABA scale CUS scale		**Total sample *N* = 1207**		**Female *n* = 618**		**Male *n* = 582**		***p* Value[c]**
	Score range	Mean	(SD)	Mean	(SD)	Mean	(SD)	
Full scale (18 items)	18-90	46.27	(9.57)	45.04	(9.55)	47.56	(9.43)	0.000
Negative stereotyping (8 items)	8-40	27.68	(5.91)	27.43	(6.28)	27.96	(5.49)	0.125
Exclusion and discrimination (7 items)	7-35	12.94	(4.61)	12.17	(4.23)	13.74	(4.86)	0.000
Fear of contagion (3 items)	3-15	5.68	(2.26)	5.47	(2.14)	5.91	(2.36)	0.001
CUS full scale (7 items)	7-35	19.04	(5.48)	18.41	(5.68)	19.67	(5.17)	0.000

a) The internal dropout had a range of 9–53 (0.7–4.4%).

b) The analysis is based on respondents who responded to all items in the table.

c) Pearson's $\chi 2$ test was used, and the significance level was set at $p < .05$

At baseline, 52.3% of the students had high abortion stigma scores (summed score ≥ 46), while the remaining 47.7% had low scores (summed score < 46). Similarly, 53.9% of the students had high stigma scores for contraceptive use (summed score ≥19), while the remaining 46.1% had low scores (summed score <19). Male students expressed higher abortion stigma scores (57.7%) compared to the female students (49.0%); $p = 0.003$. Also, stigma related to contraceptive use was more common among male students (58.5%) than female students (50.6%; $p = 0.007$). In addition, the youngest age group (13–15 years) indicated higher stigma scores for both abortion and contraceptive use compared with the older age groups.

With the support of my main supervisor, I also conducted a binary logistic regression to assess the independent factors associated with stigmatising attitudes on abortion and contraceptive use. We adjusted for sex and age, and the results showed that male students had higher stigmatising attitudes versus female students (OR 1.68, $p < 0.001$), and similarly, the older students had less stigmatising attitudes compared to the youngest age group (13–15). Results were as follows: age 16–17 OR 0.77; 95% CI, 0.50 – 0.90, $p = 0.009$ and age 18–21 OR 0.58; 95% CI, 0.42 – 0.80, $p = 0.001$ with 13-15 years as reference group.

At baseline, the intervention school registered a mean total score of 45.2 for ASABA (min = 18; max = 90) and 47.2 at the control school. At the 12-month follow-up after the stigma-reduction intervention, the mean total score was 32.5 at the intervention school, with score decreases of 28.2%. Similarly, at the 12-month follow-up, the mean total score was 43.5 at the

control school, with score decreases of 7.8%, ($p < 0{\cdot}001$). Among the girls at the intervention school, the decrease was 26.5%, compared to 7.3% for the girls at the control school. Meanwhile, the boys at the intervention school, show a 29.8% decrease, compared to 8% for the boys at the control school. The results show a significant decrease in mean total score for all items after providing the intervention, and a slight reduction in mean score in the control school for most of the 18 items. The intervention was considered effective for both girls and boys.

Similarly, the mean total score for all seven items on the CUS was 18.8 at baseline for the intervention school and 19.2 for the control school (min = 7; max = 35). At the 12-month follow-up after the stigma-reduction intervention, the mean total score was 13.7 at the intervention school, compared to 18 at the control school. The mean total score decreased by 27.2% and 6.4%, respectively. Among the girls, the decrease was 25.2% at the intervention school, and 7.6% at the control school. Among the boys at the intervention school the mean total score decreased 28.8% and less so at the control school (4.8%). The transformation was more prominent in the intervention school compared to the control school. In other words, stigmatising attitudes positively transformed among both girls and boys after receiving the stigma-reduction program.

Table 6: Proportion of decrease in score changes between baseline and 12-month follow-up

Scales	Intervention school	Control school	*p* Value
ASABA Subscales			
Negative stereotypes	35.1%	8%	< 0.001
Discrimination and exclusion	16.8%	6.8%	< 0.001
Potential contagion	19.2%	6.2%	< 0.001
Full scales			
ASABA	28.2%	7.8%	< 0.001
CUS	27.2%	6.4%	< 0.001

To find out if the different aspects (subscales) of abortion stigma correlate, and if abortion stigma correlates with contraceptive-use stigma, we investigated the interclass correlations. The three subscales of the ASABA scale, the full ASABA scale, and the CUS scale showed a positive correlation that fluctuated between 0.322 and 0.866. Hence, the ASABA scale is positively related to the CUS scale ($r = 0.543$, $p < 0.001$). This means that when abortion stigma increases, contraceptive-use stigma also increases. This is particularly important, as contraceptive use is an effective method to prevent unintended pregnancy, unsafe abortion, and thereby maternal morbidity and mortality.

Table 7: Score Changes (baseline, 1-month, and 12-month) at the intervention school (published in Paper IV)

Scales	**Intervention school (n=574) (Mean±SD)**				
Subscales of ASABA	**Baseline**	**1-month**	**12-month**	***p*-value[a]**	**Change[b] (95% CI)**
Negative stereotypes	3.41±0.76	2.53±0.80	2.21±0.82	< **0.001**	-1.29 (-1.40, -1,19)
Discrimination and exclusion	1.79±0.65	1.58±0·61	1.49±0.45	< **0.001**	-0.36 (-0.43, -0,28)
Potential contagion	1.83±0.78	1.61±0.70	1.48±0.60	< **0.001**	-0.40 (-0.50, -0.30)
Full scales					
ASABA	2.52±0.55	2.01±0.58	1.81±0.54	< **0.001**	-0.78 (-0.85, -0.71)
CUS	2.68±0.83	2.23±0.78	1.95±0.70	< **0.001**	-0.73 (-0.83, -0.63)

[a]Using two sample t-test for baseline and 12-month follow-up data;

[b]Using one sample t-test for changes (12-month – baseline) in each group

Table 8: Score Changes (baseline, 1-month, and 12-month) at the control school (published in Paper IV)

Scales	**Control school (n=633) (Mean±SD)**					***p*-value[c]**
Subscales of ASABA	**Baseline**	**1-month**	**12-month**	***p*-value[a]**	**Change[b] (95% CI)**	
Negative stereotypes	3.50±0.72	3.32±0.80	3.22±0.76	< **0.001**	-0.29 (-0.38, 0.22)	< **0.001**
Discrimination and exclusion	1.90±0.67	2.02±0.74	1.77±0.59	< **0.001**	-0.16 -(0.24, -0.09)	< **0.001**
Potential contagion	1.95±0.73	1.92±0.80	1.83±0.69	< **0.001**	-0.18 (-0.26, -0.09)	< **0.001**
Full scales						
ASABA	2.62±0.52	2.62±0.52	2.42±0.52	< **0.001**	-0.23 (-0.29, -0.17)	< **0.001**
CUS	2.75±0.74	2.75±0.75	2.58±0.69	< **0.001**	-0.22 (-0.31, -0.13)	< **0.001**

[a]Using two sample t-test for baseline and 12-month follow-up data;

[b]Using one sample t-test for changes (12-month – baseline) in each group;

[c]Using two sample t-test to compare the change results (12-month – baseline) between intervention and control school

7 DISCUSSION

The overall aim of this doctoral thesis was to increase knowledge on the constituents and consequences of, and solutions to, social stigma surrounding abortion and contraceptive use among post-abortion-care-seeking women and secondary school students in Kisumu, Kenya. Both quantitative and qualitative methodologies were used to investigate and explore stigma surrounding abortion and contraceptive use. The findings from this thesis may be valuable to inform policy- and decision-makers with evidence regarding the consequences of stigma surrounding abortion and contraceptive use, as well as offering some solutions for reducing stigma among secondary school students.

The main findings from this thesis will be discussed with respect to intrapersonal-, interpersonal- and institutional-level stigma, the theoretical framework of which is discussed under conceptual framework and a schematic presentation of which is shown in Figure 3. Subsequently, the methodological limitations of the three studies will be delineated.

7.1 INTRAPERSONAL-LEVEL STIGMA

Study I focused on intrapersonal-level abortion stigma and how gender-based norms and Christian values influence Kenyan women's decision-making preceding an induced abortion. Respondents in Study I expressed concern about disclosing the pregnancy and abortion for fear of judgment, social isolation, loss of social respect and even divorce. Similar findings have previously been reported among young unmarried women in Ethiopia (140), where silence regarding pregnancy and abortion was reported as a norm and an "intra-subjective process." Furthermore, a systematic literature review on abortion stigma found that secrecy as a strategy was frequently used by women and adolescent girls to mitigate abortion stigma (85). Shellenberg et al. argued that fear of judgment effectively curtailed women's readiness to disclose their abortion intention or experience (141). The respondents in Study I coped with the risk of stigmatisation by making strategic choices regarding whom they confided in. The expressed fears of negative rumours and a lack of trust in friends and relatives confirm social stigma, but also show that other individuals' opinions are extremely important to women during the reproductive decision-making process.

Respondents in Study I reported that they preferred to keep the pregnancy undisclosed to avoid revealing their wish for undergoing abortion procedures, which was also indicated in

Study II. In Study I, we found that young unmarried women faced “triple stigma”: the stigma of a premarital sexual relationship, pregnancy outside of marriage and abortion-related stigma. The intrapersonal-level abortion stigma significantly affects women’s decisions of whether to seek care from a professional health-care provider who offers a safe abortion or to seek an unsafe abortion clandestinely to avoid judgment. That fear of stigma related to unintended pregnancy, including the shame that may afflict the family and the risk of social sanctions and discrimination, has previously been suggested as a driving factor in women seeking clandestine, unsafe abortions (122, 141, 142). As shown in Study I, many of these women finally ended up at public health-care facilities with complications due to unsafe abortion procedures. At the facility, they hesitated to disclose their actions due to fear of stigma and discrimination. This may increase the risk of morbidity and mortality due to the delay in seeking professional care.

7.2 INTERPERSONAL-LEVEL STIGMA

Study III demonstrated that stigmatising attitudes towards abortion and contraceptive use are common in Kenya. Negative stereotypes such as believing that abortion is a sin, that abortion brings shame to the girl’s family and community, and that contraceptive use is associated with a promiscuous lifestyle that influences other peers were the sentiments with strongest agreement. Fear of contagion, as well as exclusion and discrimination towards girls who have had an abortion, were other dimensions with moderately strong agreement among secondary school students. Not surprisingly, abortion stigma was shown to be positively related to contraceptive-use stigma; consequently, when negative abortion stigma increases, negative attitudes towards girls using contraceptives also increase. Negative stereotypes and discrimination were slightly more prominent among the male students than among the female students.

These findings correspond with previous studies from Uganda in which men reported lack of support towards women undergoing abortion (143). The male partner is often the primary—and sometimes only—person aware of the woman’s unintended pregnancy, as seen in Study I. Though Study I only included women who had received post-abortion care, the respondents expressed limited decision-making power regarding their sexual and reproductive health; instead, decisions about their fertility plans rested mainly with their partners.

Women’s decision-making power regarding abortion is hindered by gender norms and power imbalances (143). The drivers for abortion stigma among males and reasons for not

supporting women with unintended pregnancy can be fear of being arrested, fear that the woman would die and men's personal beliefs against the practice. The sociocultural norms, values, religion and legal environment are found to contradict abortion and reflect men's attitudes towards abortion (143). These gender power imbalances reflect the Kenyan patriarchal society, a society with a social system where men hold primary power as heads of the household, as well as political leadership and control of property (101). It is therefore central to address men's attitudes, values and role in women's reproductive and contraceptive agency and decision-making power. In addition to national efforts to prevent unintended pregnancy and unsafe abortion, different programmes and initiatives ought to challenge the patriarchal traditions that influence women's access to safe abortion and contraceptives.

7.3 INSTITUTIONAL-LEVEL STIGMA

Institutional barriers such as policies and procedures may hinder access to care (130, 144). Study II primarily focused on institutional-level stigma surrounding abortion and contraceptive use. The study explored the uptake of modern contraceptive methods among women seeking post-abortion care who reported the pregnancy as unplanned versus planned. Uptake of modern contraceptives was expected to be less among women who stated the pregnancy was planned, as the assumption was that they would want to attempt for another pregnancy. However, we found no significant difference, suggesting that women reported the pregnancy as planned and indirectly claimed spontaneous abortion to avoid disclosing an induced abortion. Fear of stigmatising attitudes and legal repercussions may explain why most women seeking post-abortion care in Study II reported the pregnancy as planned when it may have been an unplanned pregnancy.

Post-abortion care providers need a complete disclosure of women's pregnancy history for a comprehensive choice of care. However, stigma creates distress among clients, leading to incomplete disclosures of their pregnancy history, which in turn leads to misappropriate care with potential risks for the client, as has been demonstrated before (105). Study II concluded that when women are offered contraceptive counselling and access to contraceptives as part of the post-abortion care service, most women, regardless of reported pregnancy intention, started to use a modern contraceptive method. These findings are important because women are not always offered these services (118, 145), even though contraceptive counselling is one of the mandatory elements of post-abortion care (64). Considering this context with restrictive laws and social stigma surrounding abortion, post-abortion-care-seeking women reporting the pregnancy as planned should not be interpreted as having no need for

contraception. Contraceptive counselling should be routinely provided to all post-abortion-care-seeking women, regardless of their reported pregnancy intention. Health-care providers ought to understand the realities of women and adolescent girls, in order to adapt and modify their care to the needs and preferences of their patients. Study II included adolescents and young people; this is a diverse group with divergent needs, and it is fundamental that health-care providers, managers and policy-makers understand and address barriers to access and use of contraception by this group of individuals (146).

Adolescents and young people have the right not only to sexual and reproductive health care but also to information and education (1). A natural space for sexual education is the school, an institution for providing general education where the adolescents and young people spend a large portion of their time. The school social climate includes norms, values and expectations. Many researchers have been able to demonstrate that the school climate has a direct impact on students' attitudes and behaviour (147, 148). Study III (Paper III) indirectly measured institutional-level stigma at two secondary schools. The findings revealed that stigmatising attitudes and beliefs about abortion and contraceptive use are common among secondary school students. Many respondents expressed that contraceptive use was only for married women, and if used by unmarried women, it was associated with immorality and promiscuity. Abortion was considered a sin and shameful for the whole family and the community. School climate as a group phenomenon has been extensively studied (148); however, in relation to abortion-and-contraceptive-use stigma, this thesis is the first.

As shown in Paper III, the youngest age group (13–15 years) showed the highest level of stigmatising attitudes towards girls associated with abortion and contraceptive use, compared to older age groups. Stigmatising attitudes may become less as adolescents and young people themselves are faced with decisions about sexual relationships, contraception and unintended pregnancy. In Kenya, the majority of the population adheres to Christianity (86%) (97), and the schools included in the study provide Christian religious education. Therefore, it is not a surprise that Study III found that most (89.9%) students considered abortion a sin, while contraceptive use was expressed as morally wrong. Adolescent girls who use modern contraceptives were considered promiscuous (40.8%) and a bad influence on other girls (46.9%). These negative attitudes by peers may create a barrier to adolescent girls in need of comprehensive abortion care and/or contraceptive services. However, Paper IV showed that a school-based stigma-reduction programme for abortion and contraceptive use that promoted gender equality and equitable norms was effective in transforming attitudes and

beliefs regarding girls associated with abortion and/or contraceptive use. Even though the level of stigma was higher among male students compared to female students at baseline, the reduction in stigmatising attitudes and beliefs was greater among boys compared to girls. The stigma-reduction intervention provided in Study III was considered effective among boys and girls and could be implemented as part of the CSE programme in Kenya. Previous researchers have suggested that age-appropriate sexuality education programmes in Kenya need to be developed based on the latest evidence from effective programmes (127). Still today, abstinence-only-until-marriage programmes are common in Kenyan schools (127), even though this type of programme has been proven to be ineffective and ethically flawed and is best provided in combination with evidence-based information about sexual and reproductive health and rights (149). Adolescents have the right to information and to decide for themselves when to initiate sexual relationships, when to have children and when to get married. Abstinence can be a healthy option; however, it must be a free choice not forced (149).

7.4 STIGMA – SOCIAL AND CULTURAL PROCESSES

This thesis contributes to the broader understanding of stigma surrounding abortion and contraceptive use that identifies stigma as social-cultural processes. Social and political power influences individuals and outlines the stigma within all levels of society (Intrapersonal, Interpersonal, Institutional, Community and Governmental). The effects from the sociocultural environment can be observed and measured within the individual. The consequences of the intrapersonal-level stigma identified in this study, such as silence, concealment and fear of disclosure, are theoretically generated and driven by the sociocultural environment according to the Conceptual Framework (Figure 3). Improved knowledge and understanding of the social and cultural processes that create stigma should be investigated in our efforts to reduce stigma related to abortion and contraceptive use.

8 METHODOLOGICAL CONSIDERATIONS

The strength of this thesis is the mixed-methods approach to investigating stigma surrounding abortion and contraceptive use. Given the limited number of published research papers on this topic among post-abortion-care-seeking women and especially secondary school students, this approach was needed to advance our knowledge of this multidimensional issue.

8.1 STUDY I (PAPER I)

This qualitative study was my first research study in Kisumu, Kenya and facilitated my personal understanding of what stigma does to women and adolescent girls. This study developed my interest in stigma surrounding abortion and contraceptive use. I was part of a multicultural research team and was involved from conception through data collection and analysis, which strengthens the trustworthiness of the findings. Trustworthiness in qualitative research has four criteria: credibility, transferability, dependability and confirmability. Credibility is when the researcher clearly links the findings with reality and shows that the results are true and accurate. One of the instruments to demonstrate this is triangulation and member checking. Transferability is when the researcher provides evidence that the findings may be applicable to similar or other populations and contexts. Dependability is about consistent and repeatable findings, and confirmability is about verifying that the findings are based on the respondents' description rather than by the researchers. One technique to verify this is reflexivity, which may ensure transparency and quality (150).

Credibility – truth value

Study I was initially developed to explore decision-making in relation to induced abortion, contraceptive use, and experiences of post-abortion care among young women and their partners. We had planned to interview available partners separately. However, after conducting the first two interviews, we realized it was not ethically feasible to implement the study as initially planned due to confidentiality and privacy issues, as most respondents had kept their pregnancy status and/or the abortion a secret. It could be argued that this is a limitation of this study. Partners and other significant family members might have given different statements about the decision-making process. Ethical concerns prevented us from conducting interviews with the partners.

Member checking could have been a valuable tool to confirm and demonstrate credibility in Study I. However, due to logistical constraints of conducting research in a rural, low-income

country such as Kenya, the research team lacked options to reach out to the participants a third time after the data was analysed and the draft manuscript developed. One can also wonder if the participants would have responded positively to hearing back from the research team more than a year after their post-abortion care.

The use of suitable categories can also strengthen the credibility of a qualitative study. In Paper I, we demonstrated the abstraction process and how it covered the data. The data analysis, coding, category development and abstraction were conducted simultaneously by me and the master's student. During this process, we held regular meetings with the whole research team to discuss and compare findings. This further improved the analysis and maximised the rigour of the study.

Transferability – applicability

The research project proposal focused on young women (15–24 years), but ethical concerns prevented the inclusion of adolescent girls under 18 years of age. Also, by coincidence, the selected sample for this study only included women over the age of 32. Older women and adolescent girls might have responded differently. Adolescent girls in Kenya are seriously affected by unintended pregnancies and unsafe abortions. They are the most affected age group; therefore, it would have been valuable to focus on, or at least include, some respondents under 18 years. The results might have looked different if the focus had been on adolescent girls and young women.

Dependability – inquiry audit

Dependability can be complicated, as it may be challenging to confirm consistent and repeatable findings. One way to do this suggested by scholars is to establish an external audit by having one or several external researchers reading, examining and reviewing the data collection process, data analysis, and the findings. This may confirm dependability. Before submitting this manuscript for publication, one of my supervisors not included in this study read the manuscript and provided critical feedback. Another way of conducting an inquiry audit could have been to organize a Journal Club. Unfortunately, at that time Karolinska Institutet was not open for Virtual Journal Clubs (as I was based in Kenya, I saw the value of connecting with my peers virtually). However, in late 2018, I prepared a Concept Note for Virtual Journal Clubs and managed to get the Doctoral School in Health Care Sciences at Karolinska Institutet interested in Virtual Journal Clubs. My main supervisor agreed to lead

the Virtual Journal Clubs, and together we started up the first Virtual Journal Club at Karolinska Institutet.

Confirmability – reflexivity

While conducting research, it is impossible to be "outside of" the study topic. Reflexivity regarding the researcher's subjectivity in qualitative research is when you as a researcher recognize that you contribute to the research process. Reflexivity is about how we as a research team formed, and were formed by, the research process and outputs. To be better equipped and prepared for this study, I took two extra doctoral courses at Karolinska Institutet: "Interview techniques in health and care research" and "Practical approaches to qualitative research–based on blended learning." During these courses, I learned that repeated interviews can lead to increased insight into informants' feelings, thoughts and behaviour as trust was built between the interviewer and the respondent. When conducting in-depth interviews concerning sensitive topics, repeated interviews can be further valuable.

For Study I (Paper I), five female researchers from Sweden and Kenya formed the research team. All of us had extensive experience in sexual and reproductive health and rights in low- and middle-income countries. This study benefitted from the shared experience, skillset, and energy that the team members brought. Personally, I also advanced my academic goals of learning from others across disciplines and departments at Karolinska Institutet in qualitative research.

The unequal relationship between the researcher and the respondent should be considered in qualitative research (151). In Study I, the interviewer, a master's student, was nonclinical and from outside the Kenyan health-care system. Therefore, it could be argued that this ensured participants' confidentiality, as the study subject was a highly sensitive issue. After each interview, the master's student would call me to discuss the case, and I let the master's student debrief, which provided me with a deeper understanding of the interview.

Conducting and transcribing the interviews was emotionally demanding. During the data collection and transcription of the interviews, I had daily conversations with the master's student I co-supervised to provide guidance and support. We discussed our personal experiences and shared our feelings. The deep emotional experience of conducting the interviews and transcribing them allowed us to empathise and feel with the respondents. I

never met the respondents, and this helped me to stay away from my own feelings to truly analyse what the women meant.

8.2 STUDY II (PAPER II)

Study II (Paper II) had several strengths. First, this study had a large sample size and was nested within a large, randomised controlled study. Second, the sociodemographic characteristics of the women were heterogeneous. Third, this was an attempt to indirectly assess the consequences of women's silence and fear of stigmatising attitudes by post-abortion-care providers. Finally, as Kenya has a restricted abortion law, research on this topic is limited, and statistics regarding unplanned pregnancies are scarce.

This study also had some limitations. One potential limitation is the low return rate at the three months follow-up. This may be due to poor access to the health-care facility. Transportation costs in Kenya are a barrier for women to access care. Other reasons for the low follow-up rate could be that women felt well and could not perceive the value of a follow-up appointment with the midwife. The low follow-up rate at three months is a flaw and may indicate a dropout due to ceased contraceptive use or continued use with no need for further visits.

Second, as this was a secondary analysis of existing data, a likely limitation was the availability of data. This may have led to missing relevant variables related to the concept of unplanned pregnancy. Unplanned pregnancy includes mistimed, unintended and unwanted pregnancies, and this definition was not indicated in the stated question. Although secondary data analyses unquestionably have limitations, they also increase the overall efficiency of research efforts, providing opportunities to explore and test relevant concepts when research funds are limited. Third, midwives asked the respondents about their pregnancy intentions retrospectively, which could have led to recall bias, a methodological issue.

8.3 STUDY III (PAPER III AND IV)

Study III (Paper III and IV) was a quasi-experimental study with three data collections. Both girls and boys participated in the study, and the analyses were gender- and age-segregated to avoid gender and age biases. The results were also segregated by school (intervention school and control school). Study III had several strengths, such as the design (quasi-experimental study with comparable groups), large sample size, and the same students were included at baseline and in the follow-ups 1-month and 12-month after the intervention. The

questionnaires we used were validated (135). Furthermore, as this was a supervised classroom survey, we encountered a low internal dropout rate, and the research assistants who supervised the data collection could ensure that the participants filled in their own questionnaires. The low internal dropout rate may confirm the validity and reliability of the instruments.

Another important strength of this study was the extent to which it included the community (teachers, students, health-care providers, government officials from the Ministry of Education and Ministry of Health, religious leaders, and NGOs, as well as local and international researchers) in the development of the intervention. The intervention was therefore adapted to the cultural context. Also, teachers and principals from the schools included in the study and schools in the surrounding area hold ownership of the intervention and have requested support with implementation of the CSE programme. According to KMET, the teachers may have recognized they are not comfortable or fit to provide CSE to their students and have found this collaboration to be a fruitful way to support the students using evidence-based CSE with the aim of reducing stigma surrounding abortion and contraceptive use.

Knowledge about secondary school students' attitudes and beliefs towards abortion and contraceptive use is limited; this study contributes to the increase of that knowledge. This study is the first quasi-experimental study to study abortion-and-contraceptive-use stigma among secondary school students in a setting with restrictive abortion law and social norms. This study not only measured stigma but was also an interventional study, tailored to evaluate the impact of a stigma-reduction programme. Few interventional studies have addressed abortion-and-contraceptive-use stigma among adolescents and young people. In general, existing literature about abortion-and-contraceptive-use stigma interventions is limited (152).

Despite several strengths, Study III also had some limitations. Quasi-experimental research design is like experimental research but without the randomisation of the intervention. Hence, quasi-experimental design will not remove the issue of confounding. In Study II, participants could not be randomly assigned to the intervention, and only two schools were included in the study; therefore, the sample size for a cluster randomised control trial was too small. However, quasi-experimental design is commonly used in field settings where random assignment is impossible.

9 CONCLUSION

This thesis provides improved knowledge and understanding of the constituents of abortion-and-contraceptive-use stigma, its consequences and solutions. The findings indicate that stigma acts as a driving force for unintended pregnancies and consequently unsafe abortions, which places women and adolescent girls at significant health risks. Women and adolescent girls seeking post-abortion care may fear stigmatising attitudes from health-care providers and consequently hide their pregnancy history. Therefore, all women and adolescent girls seeking post-abortion care should be provided routine contraceptive counselling to avoid repeated abortions. Additional attention during post-abortion contraceptive counselling should be provided to adolescents, unmarried women, nulliparous women, women with non-disclosure of pregnancy, and women and girls attending the post-abortion care clinic without a partner, as they are more likely to have an unplanned pregnancy.

A notable finding was that adolescent girls associated with abortion and/or contraceptive use are highly stigmatised among secondary school students. Negative stereotyping, discrimination and exclusion of girls who have undergone an abortion, as well as fear of contagion, are common sentiments among secondary school students. Stigma was more present among male students compared to female students. However, a three-session stigma-reduction programme was effective among both female and male students in positively transforming negative opinions towards abortion and contraceptive use. This suggests that gender- and age-appropriate CSE should include an abortion-and-contraceptive-use stigma-reduction module to reduce stigmatising attitudes among adolescents and young people.

This thesis emphasizes that abortion-and-contraceptive-use stigma are sociocultural processes, multidimensional and flexible, and spread throughout all social levels. Therefore, this type of stigma should not be considered merely a phenomenon between individuals, as this might prove misleading and fail to represent the complexity of the issue. Drivers for stigma surrounding abortion and contraceptive use are inflated in the legal context, culture and traditions, religious involvement, social norms and values, gender norms, and socioeconomic status. A large social and cultural shift is needed to sustain the positive effects among school students seen in this thesis. Innovative strategies such as high-level policy changes, community dialogues and institutional advocacy are required for a stigma-free environment and to support women and girls navigating their sociocultural environment.

10 RECOMMENDATIONS

Future investment in research should consider stigma surrounding abortion and contraceptive use as a social-cultural process. To appreciate the complexity of health-related stigma a research team of individuals specializing in various fields should be established. The multidisciplinary research technique, with experts from different disciplines, could find explanations for the sociocultural processes by which large changes in norms and morals occur. Abortion stigma researchers should combine forces with other health-related stigma researchers (HIV/AIDS, mental health) to explore effective interventions that can be implemented at scale. Implementation science could support the development and application of effective abortion-and-contraceptive-use stigma reduction interventions in low-income countries.

Governmental-level stigma

- Improve understanding of stigma related to abortion and contraceptive use among policy makers at governmental level.
- Explore and evaluate multi-level stigma-reduction interventions that normalize abortion and contraceptive use at all levels in the society, with the aim of transforming social views.
- Explore a wide range of stigma-reducing strategies.
- Investigate how national laws, policies and strategizes produce and reproduce stigma
- Assess the association between stigma and social inequalities.
- Improve understanding of the structural pathways to abortion-and-contraceptive-use stigma.
- Explore the association between contraceptive-use stigma and abortion stigma at all levels in the society.
- Investigate health consequences of abortion-and-contraceptive-use stigma, including cost analysis.
- Improve understanding of stigma related to abortion and contraceptive use as a social determinant of health and health inequalities

Community- and Institutional-level stigma

- Evaluate rigorous stigma-reduction interventions in sexual and reproductive health and rights with specific focus on abortion-and-contraceptive-use stigma tailored to the local context.

- Investigate abortion-and-contraceptive-use stigma at institutions other than health-care facilities, including preschools, secondary schools, health science institutions, and other educational institutions.

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13 APPENDICES

Appendix 1: Interview guide, Study I (Paper I)

Post-abortion care and contraceptive counselling – facility-based studies in Kisumu, western Kenya.

The aim of these interviews is to explore young women's decision-making in relation to induced abortion and experiences of received post-abortion care.

Interview guide Study I

Date: _____ Time: _____

Interview nr: _____ Health-Care Facility: _____

Sociodemographic information

Age: _____ Educational background: _____

Current occupation: _____

Relationship status: _____ If married (year and month): _____

Partner's occupation, if applicable: _____

Religion: _____ Born in (rural or urban area): _____

Current accommodation (independent or with family): _____

Reproductive history

Number of pregnancies: _____ Number of live births: _____

Number of stillbirths: _____ Number of miscarriages: _____

Number of induced abortions: _____

Contraceptive use: (method, ever used, used at the time of getting pregnant?

Can you please tell me about your situation?

Probing questions: What made you realize that you were pregnant? What was your first reaction? How did you feel when you discovered that you were pregnant? Could you tell anyone about the pregnancy? Who did you tell? How many weeks pregnant were you?

Can you share with me what has been on your mind during this pregnancy?

Probing questions: What happened when you got pregnant? Who is the father? What is your relationship to him? Did you use any contraception? What was your opinion or knowledge about contraception? Have you ever used any contraceptives?

Can you please describe to me the abortion decision and the procedure following your decision?

Probing questions: When did you start thinking that you wanted to terminate the pregnancy? Do you feel that it was your own decision to induce abortion, or was anyone else involved? What did you know about abortion previously?

Can you tell me more about your thoughts about the decision to have an abortion? Did you discuss the decision with anyone? Could you ask someone for advice or information? In that case, what did they say? Does your partner (if applicable) know of the pregnancy and the induced abortion? What was your partner's opinion about the pregnancy and the abortion?

Were there any other options for you other than abortion? Who paid for the abortion? Who conducted the abortion, where was it done and how? How many days ago did you have the abortion? Have you experienced induced abortion before?

Did you have confidence in the provider? Did you feel safe? What were your fears?

What are your thoughts and feelings about the abortion now?

Do you feel worried/relieved? What do you worry most about? What was the most difficult part about the abortion? What was the easiest part? Can you share your thoughts with any close person (partner, sister, friend, parents)?

Views about post-abortion care

What is your opinion about the care during your stay at hospital? Can you describe the encounter with health-care providers at the hospital? What can be done to improve care? Did you receive counselling? What was your experience with the counselling part?

Do you think that I have missed something that you would like to add?

Do you have any questions for me?

Appendix 2: Face-to-face questionnaire, Study II (Paper II)

Study client number:……..

PROTOCOL 1

Section 1: Socio demographic information

Admission date:……..

Admission time:……..

1.1 Facility:

Kisumu District Hospital ( ) 1

Jaramogi Oginga Odinga Teaching and Referral Hospital ( ) 2

1.2 Age in completed years ……..

1.3 Marital status

Co-habiting/Married (duration):..... ( ) 1

Widow ( ) 2

Single ( ) 3

Divorced ( ) 4

Separated ( ) 5

1.4 Religion:

Christian ( ) 1

Muslim ( ) 2

1.5 Education level:

None ( ) 1

Primary, 1-4 ( ) 2

Primary 5-8 ( ) 3

Secondary ( ) 4

Tertiary ( ) 5

1.6 Occupation:

Unemployed ( ) 1

Formal employment ( ) 2

Self employed ( ) 3

Section 2: Health care seeking

2.1 How many days ago did this problem occur? ..... (days)

2.2 For this problem, have you sought health care anywhere else before coming to this facility?

Yes	( ) 1 (Go to 2.3)
No	( ) 2 (go to 3.1)

2.3 If yes, from which facility level did you seek care? .....

Private clinic	( ) 1
Dispensary	( ) 2
Health Centre	( ) 3
District Hospital	( ) 4
Provincial hospital	( ) 5
Private Hospital	( ) 6

Section 3: Reproductive history

3.1 Number of pregnancies:……

3.2 Number of deliveries:……..

3.3 Number of live birth:……..

3.4 Number of still births: ……

3.5 Number of miscarriages:……..

3.6 Number of induced abortions:……..

3.7 Does anybody know about this pregnancy?

Yes	( ) 1
No	( ) 2

3.8 If yes, who knows about it?

Partner	( ) 1
Parent(s)	( ) 2
Other relatives	( ) 3
Friend(s)	( ) 4
None	( ) 5

3.9 Did your partner accompany you to the PAC clinic?

Yes	( ) 1
No	( ) 2

3.10 Was this pregnancy planned?

Yes	( ) 1
No	( ) 2

3.11 What contraceptive methods have you used in the past 12 month	YES	NO
None	( )	( )
Safe days (fertility awareness method)	( )	( )
Condoms	( )	( )
Contraceptive pills	( )	( )
Hormonal injections	( )	( )
Hormonal implants	( )	( )
IUD	( )	( )
Permanent contraceptive	( )	( )

Section 4: Clinical findings

4.1 Gestational age based on last normal menstrual period (LMP) in weeks:……

4.2 Gestational age according to size of uterus (in weeks):……..

4.3 Symptoms at clinical findings	YES	NO
Foul-smelling vaginal or cervical discharge	( )	( )
Abdominal pain	( )	( )
Foreign body in vagina	( )	( )
Tears on portio	( )	( )

4.4 Administer Misoprostol 600 mcg

Yes	( ) 1
No	( ) 2

4.5 Administer Pain management

Yes	( ) 1
No	( ) 2

4.6 Administer Antibiotics

Yes	( ) 1
No	( ) 2

4.7 Did you try to end this pregnancy?

Yes	( ) 1
No (if NO go to 5.1)	( ) 2

4.8 If yes, which method(s) was/were used to end the pregnancy?	YES	NO
MVA	( )	( )
Dilatation & Curettage	( )	( )
Catheter	( )	( )
Tablets/misoprostol	( )	( )
Sticks	( )	( )
Herbs, vaginal	( )	( )
Herbs, oral	( )	( )

4.9 Who induced the termination?

Self	( ) 1
Familymember	( ) 2
Traditional healer	( ) 3
Physician	( ) 4
Clinical officer	( ) 5
Nurse/midwife	( ) 6
Pharmacist	( ) 7

4.10 Where did you try to end the pregnancy?

Public facility	( ) 1
Private facility	( ) 2
Traditional healer	( ) 3
At home	( ) 4
Private Hospital	( ) 5
Other(s) specify.....	( ) 6

Section 5 Post abortion contraceptive counselling

5.1 Received information about contraceptives at this admission

Yes	( ) 1
No	( ) 2

5.2 Contraception accepted

Yes	( ) 1
No	( ) 2

5.3 Contraceptive method chosen

Condoms	( ) 1
Contraceptive pills	( ) 2
Hormonal injections	( ) 3
Hormonal implants	( ) 4
IUD	( ) 5
Permanent contraceptive	( ) 6

6.1 Received post abortion information

Yes	( ) 1
No	( ) 2

6.2 Discharge time:……

Received follow up date:……..

PROTOCOL 2

Section 7: Follow up after 7 – 10 days, clinical findings and symptoms

Name of provider:……..

Date:……

Time……

7.1 Pulse:……
7.2 Blood pressure:……...
7.3 Temperature in degrees:……

7.4 Reported symptoms after PAC	YES	NO
Chill	( )	( )
Foul-smelling vaginal or cervical discharge	( )	( )
Lower Abdominal pain	( )	( )
Nausea	( )	( )
Vomiting	( )	( )
Diarrhoea	( )	( )
None	( )	( )

7.5 Bleeding since the treatment

Much less than normal menstrual bleeding	( ) 1
Less than normal menstrual bleeding	( ) 2
Same as normal menstrual bleeding	( ) 3
Heavier than normal menstrual bleeding	( ) 4
Much heavier than normal menstrual bleeding	( ) 5

7.6 Number of days bleeding after treatment ……

7.7 Pelvic infection at follow up

Yes	( ) 1
No	( ) 2

7.8 Retained products

Yes	( ) 1
No	( ) 2

7.9 If retained products

Counselling and reassurance	( ) 1
MVA	( ) 2
Repeat dosage of Misoprostol (600 mcg)	( ) 3

7.10 Complete abortion

Yes	**( ) 1**
No	**( ) 2**

Comments:……..

……..

7.11 Pain assessment

Ask the women to grade the severity of pain experienced following PAC

None	( ) 1
Mild	( ) 2
Moderate	( ) 3
Severe	( ) 4

7.12 Did you use any other pain relief after treatment

Yes	( ) 1
No	( ) 2

7.13 Did you have any unscheduled visits at health care clinic/hospital since treatment?

Yes	( ) 1
No	( ) 2

7.14 Reason for the unscheduled visit	YES	NO
Heavy bleeding	( )	( )
Feeling lightheaded/dizzy	( )	( )
Fever/Chills	( )	( )
Persistent sever abdominal pain	( )	( )

7.15 Unscheduled visit number of days after treatment:……..

Section 8 Women's experiences of treatment

8.1 Did you receive information/counselling concerning symptoms following treatment?

Yes	( ) 1
No (if no go to 8.3)	( ) 2

8.2 If yes, was the information/counselling

Very adequate	( ) 1
Adequate	( ) 2
Insufficient	( ) 3
Very insufficient	( ) 4

8.3 Did you feel relaxed and safe after the treatment?

Yes	( ) 1
No	( ) 2

8.4 How did you perceive the treatment procedure?

As expected/anticipated	( ) 1
Worse than expected/anticipated	( ) 2
Easier than expected	( ) 3

8.5 Would you recommend the treatment to a friend or relative?

Yes	( ) 1
No	( ) 2

Section 9 Post abortion contraceptive at follow up

9.1 Did you receive contraceptive counselling before discharge after your treatment?

Yes	( ) 1
No	( ) 2

9.2 Did you accept any contraceptive method?

Yes	( ) 1
No	( ) 2

9.3 What contraceptive method did you choose?

Condoms	( ) 1
Contraceptive pills	( ) 2
Hormonal injections	( ) 3
Hormonal implants	( ) 4
IUD	( ) 5
Permanent contraceptive	( ) 6
Traditional method	( ) 7

9.4 Have you started using the chosen contraceptive method

Yes ( ) 1

No ( ) 2

If yes, how has it worked?

……

……

If no, why not?

……

……

Which topics do you think you still need counselling on? ……

……

……

9.8 Extra contraceptive counseling given

Yes ( ) 1

No

PROTOCOL 3

Section 10. Post abortion contraceptive use at 3 month.

10.1 Are you still using the chosen contraceptive method?

Yes	( ) 1
No (go to 10.3)	( ) 2

10.2 What is the level of your satisfaction with the contraceptive method chosen (go to 10.8) ?

Highly satisfied	( ) 1
Just satisfied	( ) 2
Not satisfied	( ) 3
Would like to stop method	( ) 4

10.3 Why did you discontinue the chosen contraceptive method?

Wanted pregnancy	( ) 1
No resupplies	( ) 2
Partner refused	( ) 3
Side effects	( ) 4

If side effects, what were the side effects?

……..

……..

10.4 Have you received counselling on the new method

Yes	( ) 1
No	( ) 2

10.5 Which method do you use now instead?

None	( ) 1
Condoms	( ) 2
Contraceptive pills	( ) 3
Hormonal injections	( ) 4
Hormonal implants	( ) 5
IUD	( ) 6
Permanent contraceptive	( ) 7
Traditional method	( ) 8

10.6 Are you comfortable with that new method?

Yes	( ) 1
No	( ) 2

10.7 Pregnancy test taken

Yes	( ) 1
No	( ) 2

10.8 Result of pregnancy test

Positive	( ) 1
Negative	( ) 2

Which topics do you think you still need counselling on ? ……

……

……

10.9 Extra contraceptive counselling given

Yes	( ) 1
No	( ) 2

Appendix 3: Questionnaire, Study III (Paper III and IV)

ASABA Questionnaire

Female ☐ Male ☐ Age: ……

1= Strongly Disagree 2=Disagree 3=Unsure 4=Agree 5=Strongly Agree

	Negative Stereotyping SABAS items	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	A girl who has an induced abortion is committing a sin.	1	2	3	4	5
2	Once a girl has one abortion, she will make it a habit	1	2	3	4	5
3	A girl who has had an abortion cannot be trusted.	1	2	3	4	5
4	A girl who has had an abortion brings shame to her family.	1	2	3	4	5
5	The health of a girl who has had an abortion is never as good as it was before the abortion.	1	2	3	4	5
6	A girl who has had an abortion might be a bad influence on other girls.					
7	A girl who has had an abortion will be a bad mother.	1	2	3	4	5
8	A girl who has had an abortion brings shame to her community.	1	2	3	4	5

OPTION TO COMMENT ……

……

Exclusion and Discrimination SABAS items		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
9	A girl who has had an abortion should be prohibited from going to religious services.	1	2	3	4	5
10	A girl who has had an abortion should be teased so that she will be ashamed about her decision.	1	2	3	4	5
11	A girl should be disgraced in my community if she has had an abortion.	1	2	3	4	5
12	A man should not marry a woman who has had an abortion.	1	2	3	4	5
13	A girl who has had an abortion should no longer be associated with	1	2	3	4	5
14	A girl who had an abortion should be pointed fingers at so that other people would know what she has done	1	2	3	4	5
15	A girl who has had an abortion should not be treated the same as everyone else.	1	2	3	4	5

OPTION TO COMMENT ……

……

……

Fear of contagion SABAS items		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
16	A girl who has had an abortion can make other people fall ill or get sick	1	2	3	4	5
17	A girl who has had an abortion should be isolated from other people in the community for at least 4 weeks after having an abortion.	1	2	3	4	5
28	If a boy has sex with a girl who has had an abortion, he will most likely become infected with a disease.	1	2	3	4	5

OPTION TO COMMENT ……

……

……

CUSS Questionnaire

Female ☐ Male ☐ Age: ……

1= Strongly Disagree 2=Disagree 3=Unsure 4=Agree 5=Strongly Agree

	Contraception SABAS items	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1	A girl who use a contraceptive method is promiscuous (sexually immoral, likes to have many sexual relationships).	1	2	3	4	5
2	A girl who use a contraceptive method will encourage other girls to be promiscuous	1	2	3	4	5
3	A girl cannot decide for herself if to use a contraceptive method.	1	2	3	4	5
4	A married woman is more deserving of a contraceptive method than an unmarried woman.	1	2	3	4	5
5	A girl who uses contraceptives will have problem when she decides to get pregnant.	1	2	3	4	5
6	A girl who carries condoms is likely to have many sexual partners.	1	2	3	4	5
7	A girl should not insist to use a condom, it is the man to decide whether to use a condom or not.	1	2	3	4	5

OPTION TO COMMENT ……

……

……

Sexual debut	
1	Have you had your sexual debut (intercourse)? **No** ☐ **Yes** ☐
2	If you have had sexual intercourse, did you use any contraceptive method(s) during your last intercourse (only applicable if you answered Yes on question 28)? ☐ **No** ☐ **Yes, I used:** ☐ Condom ☐ Contraceptive pills ☐ Hormonal injection ☐ Hormonal implant ☐ Other: .....

OPTION TO COMMENT .....

.....

.....

.....

.....

...